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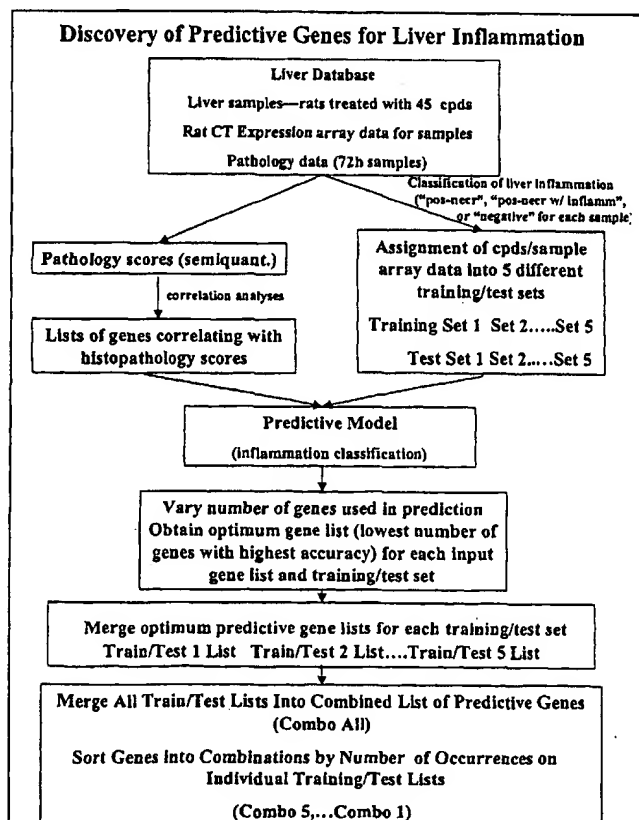
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(54) Title: **LIVER INFLAMMATION PREDICTIVE GENES**



(57) Abstract: The invention provides toxicity predictive genes that can be used to predict toxicity in response to one more agents. The invention provides for a method of predicting the liver toxicity In Vivo or In Vitro to an agent. The method comprises obtaining a biological sample from an individual, cell culture or explant treated with the agent. The expression of one or more liver toxicity predictive genes in the sample is measured, wherein the genes are selected from a group consisting of partial gene sequences of genes identified as responsive to agents causing liver inflammation. The process generates a test expression profile. The test expression profile is used with a set of reference expression profiles in a Predictive Model to determine whether the agent will induce liver toxicity in the individual.

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SPECIFICATION

LIVER INFLAMMATION PREDICTIVE GENES

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Cross Reference to Other Patent Applications

This application claims the benefit of U.S. Provisional application No. 60/379,831 and filed 05/10/02, which is incorporated herein by reference in its entirety.

Reference to a Sequence Listing and Tables

Description of Accompanying CD-ROM (37 C.F.R. §§ 1.52 & 1.58): Tables 26, 28, 29, and 30 referred to herein are filed herewith on CD-ROM in accordance with 37 C.F.R. §§ 1.52 and 1.58. Two identical copies (marked "Copy 1" and "Copy 2") of said CD-ROM, both of which contain Tables 26, 28, 29, and 30, are submitted herewith, for a total of two CD-ROM discs submitted. Table 26 is recorded on said CD-ROM discs as "Table26.txt" created April 25, 2002 size 288,877 bytes. Table 28 is recorded on said CD-ROM discs as "Table28.txt" created on May 6, 2002, size 634,567 bytes. Table 29 is recorded on said CD-ROM discs as "Table29.txt" created on May 6, 2002, size 444,079 bytes. Table 30 is recorded on said CD-ROM discs as "Table30.txt" created on May 6, 2002, size 399,825 bytes.

The contents of the files contained on the CD-ROM discs submitted with this application are hereby incorporated by reference into the specification.

Background

This invention is in the field of toxicology. More specifically, it relates to liver inflammation predictive genes and the methods of using such genes to predict liver inflammation.

Molecular biology and genomics technologies have potential to create dramatic advances and improvements for the science of toxicology as for other biological sciences. See, for example, MacGregor, et al. *Fund. Appl. Tox.* 26:156-173, 1995; Rodi et al., *Tox. Pathology* 27:107-110, 1999; Cunningham et al., *Ann. N.Y. Acad. Sci.* 919: 52-67, 2000; Pritchard et al., *Proc. Natl. Acad. Sci. USA* 98:13266-13271, 2001; and Fielden and Zacharewski, *Tox. Sciences* 60: 6-10, 2001. These technologies provide massive amounts of parallel information for processes and events occurring at the molecular level. This level of information is in dramatic contrast to conventional safety assessment toxicology that, to a large extent, currently relies on subjective evaluation (e.g., in-life observations of behavior, observations of gross abnormalities at necropsy and histopathological examination of stained tissue slides using a microscope). These current methodologies may be largely subjective and in some cases such as histopathological evaluation, they require someone with a high degree of training, experience and skill to make competent evaluations. Furthermore, many of the methodologies require access to organs and tissues that necessitates either killing laboratory animals or surgery to obtain tissue specimens.

Recently, there have been some initial efforts to apply molecular biology and genomics technologies to toxicology. Some efforts have involved application of gene expression measurements. See, for example, U.S. Patent 6,228,589 and WO 01/05804. Analysis of the data has yielded interesting observations of gene expressions that appear to correlate with some toxic effects or mechanisms. See, for example, Mueller et al. *Environmental Health Perspectives* 106(5): 277-230 (1998). However, there has been very little published work in toxicology so far that applies rigorous analytical and statistical techniques to the massive amounts of data available from genomics technologies. The observations, so far, have tended to be phenomenological and focused on individual gene responses rather than determining the generally applicable capabilities of patterns of gene expression to predict toxic effects (see, for example, studies of gene expression altered by exposure to liver

toxicants in Bartosiewicz et al., *Environ health Perspectives* 109:71-74, 2001; Huang et al., *Tox. Sciences* 63: 196-207, 2001). Even in the larger field of biological sciences, these types of analyses are just beginning to be evidenced in the literature (e.g., Golub et al., *Science* 286: 531-537, 1999).

Recently some work has been published that attempts to correlate gene expression profiles with the mechanism of toxicity of various hepatotoxins. See for example, Waring et al. *Tox. and Appl. Pharm.* 175:28-42 (2001). However there has been limited success thus far in the attempts to predict toxicity of compounds based on the gene expression profiles elicited upon treatment.

What is needed are genes and predictive models, which are capable of predicting toxicity response.

Summary

The invention provides liver inflammation predictive genes and predictive models which are useful to predict toxic responses to one or more agents.

One aspect of the present invention provides methods of predicting liver toxicity to an agent. A biological sample is obtained from an individual treated with the agent. Alternatively, a biological sample is obtained from an individual and treated with the agent. In vitro cultured cells or explants may also be treated with the agent. A gene expression profile on one or more of the liver inflammation predictive genes disclosed herein is obtained from the biological sample or in vitro cultured cells or explants used. The gene expression profile from the biological sample or cells treated with the agent is used in a predictive model to predict whether the agent will induce liver inflammation in the individual or would be predicted to produce liver toxicity following in vivo exposure.

In another aspect, the invention provides methods for determining the presence or absence of a no-observable effect level (NOEL) of an agent in an individual. A biological sample is obtained from individuals treated with the agent at different dose

levels. Alternatively, a biological sample is obtained from *In vitro* cultured cells or explants treated *in vitro* at different dose levels. A gene expression profile of a set of liver inflammation predictive genes from the samples, cultured cells or explants is obtained. The gene expression profile from the biological sample or cells treated with the agent are used in a predictive model to predict at which dose levels the agent will induce liver inflammation in the individual or *in vitro*. In one embodiment, the predictive model utilizes sets of liver inflammation predictive gene(s) selected from one of the various liver inflammation predictive gene sets disclosed herein (*i.e.*, Combination 5, 4, 3, 2, or 1), wherein the sets comprise one or more genes therefrom.

In another aspect, the invention provides methods of identifying a liver inflammation predictive gene. One method comprises providing a set of candidate toxicity predictive genes; evaluating said genes for their predictive performance with at least one training and test set of data in a Predictive Model to identify genes which are predictive of liver inflammation; and testing the performance of predictive genes for their ability to predict liver inflammation for: (i) different test sets of data, (ii) comparison of prediction for accurate versus random classification, and (iii) prediction using test data external to the data used to derive the predictive genes.

In another aspect, the invention provides a computer-based method for mining genes predictive for liver inflammation by: collecting expression levels of a plurality of candidate toxicity predictive genes in a multiplicity of samples; optionally storing the expression levels as a database on an electronic medium; defining a group of samples to be a training set; defining another group of samples to be a test set; optionally generating additional training and test sets; and selecting a set of genes which are predictive of liver inflammation based on evaluating the training set and the test set in a Predictive Model.

In another aspect, the invention provides a computer program product for predicting liver inflammation, which includes a set of liver inflammation predictive genes derived from mining a database having a plurality of gene expression profiles

indicative of toxicity. In one embodiment, the set of liver inflammation predictive genes includes at least one predictive gene from combination 5, 4, 3, 2, or 1 list.

In another aspect, the invention provides a library of expression profiles of liver inflammation predictive genes produced by the methods disclosed herein.

In another aspect, the invention provides an integrated system for predicting liver inflammation including equipment capable of measuring gene expression profiles of liver inflammation predictive genes from biological samples exposed to a test agent, operably linked to a computer system capable of implementing a predictive model.

Brief Description of the Drawings

Figure 1 is a flow diagram illustrating one embodiment of the present invention for identification of predictive genes.

Figure 2 is a flow diagram illustrating one embodiment of the present invention for evaluating performance of liver inflammation predictive genes.

Figure 3 is a flow diagram illustrating one embodiment of the present invention for predicting toxicity of liver inflammation predictive genes.

Brief Description of the Tables

Table 1 lists compounds, dose levels, liver pathology and abbreviations in the database in accordance with one embodiment of the present invention.

Table 2 lists the distribution of compounds in individual training and test sets for 24 hour liver data in accordance with one embodiment of the present invention.

Table 3 lists the genes whose expression at 24 hour directly correlates with liver inflammation at 72 hour, ranked by Pearson correlation coefficient in accordance with one embodiment of the present invention.

Table 4 lists the genes whose expression at 24 hour inversely correlates with liver inflammation at 72 hour, ranked by Spearman correlation coefficient in accordance with one embodiment of the present invention.

Table 5 lists the predictive genes for 24 hour expression data in accordance with one embodiment of the present invention.

Table 6 lists the randomly selected gene subsets from 24 hour Combo All gene set in accordance with one embodiment of the present invention.

Table 7 lists the randomly selected gene subsets from 24 hour Combos 5, 3, 2 combined in accordance with one embodiment of the present invention

Table 8 lists the randomly selected gene subsets from 24 hour all excluding predictive genes (*i.e.*, excluding Combo All genes) in accordance with one embodiment of the present invention.

Table 9 lists the liver inflammation individual sample prediction values for 24 hour data predictive genes (combined list and subsets) in accordance with one embodiment of the present invention.

Table 10 lists the liver inflammation compound-dose prediction values for 24 hour data predictive genes (combined list and subsets) in accordance with one embodiment of the present invention.

Table 11 lists the liver inflammation compound prediction values for 24 hour data predictive genes (combined list and subsets) in accordance with one embodiment of the present invention.

Table 12 lists the individual gene predictions for Combo 3 in accordance with one embodiment of the present invention.

Table 13 lists the individual gene predictions for Combo 2 in accordance with one embodiment of the present invention.

Table 14 lists the comparison of predictivity for correct liver inflammation classification and random classification using Combo gene sets and random subsets and 24 hour data in accordance with one embodiment of the present invention.

Table 15 lists the distribution of compounds in individual training and test sets for 6 hour liver data in accordance with one embodiment of the present invention.

Table 16 lists the genes whose expression at 6 hours directly correlates with liver inflammation at 72 hours, ranked by Pearson correlation coefficient in accordance with one embodiment of the present invention.

Table 17 lists the genes whose expression at 6 hours inversely correlates with liver inflammation at 72 hours, ranked by Spearman correlation coefficient in accordance with one embodiment of the present invention.

Table 18 lists genes whose expression at 6 hours is predictive of liver inflammation at 72 hours in accordance with one embodiment of the present invention.

Table 19 lists the comparison of predictivity for correct liver inflammation classification and random classification using combo gene sets and 6 hour data in accordance with one embodiment of the present invention.

Table 20 lists the distribution of compounds in individual training and test sets for 72 hour liver data in accordance with one embodiment of the present invention.

Table 21 lists genes whose expression at 72 hours directly correlates with liver inflammation at 72 hours, ranked by Pearson correlation coefficient in accordance with one embodiment of the present invention.

Table 22 lists genes whose expression at 72 hours inversely correlates with liver inflammation at 72 hours, ranked by Spearman correlation coefficient in accordance with one embodiment of the present invention.

Table 23 lists genes whose expression at 72 hours is predictive of liver

inflammation at 72 hours in accordance with one embodiment of the present invention.

Table 24 lists comparison of predictivity for correct liver inflammation classification and random classification using combo gene sets 72 hour data in accordance with one embodiment of the present invention.

Table 25 lists the RCT genes (ESTs) predictive for liver inflammation at 72 hours: best homology matches in accordance with one embodiment of the present invention.

Table 26 lists the genes predictive for liver inflammation, sequences, and accession numbers in accordance with one embodiment of the present invention.

Table 27 lists the liver inflammation predictive genes whose protein products are known to be secreted. The genes are from the table listing all the inflammation predictive genes at the three time points 6, 24, and 72 hours in accordance with one embodiment of the present invention.

Table 28 lists the expression data for the 6 hour timepoint in accordance with one embodiment of the present invention.

Table 29 lists the expression data for the 24 hour timepoint in accordance with one embodiment of the present invention.

Table 30 lists the expression data for the 72 hour timepoint in accordance with one embodiment of the present invention.

Detailed Description

One embodiment of the present invention relates to methods of predicting whether an agent or other stimulus will or is capable of inducing liver inflammation using predictive molecular toxicology analysis. Another embodiment of the present invention provides methods of predicting liver inflammation which comprise analyzing gene and/or protein expression across a number of liver inflammation biomarkers disclosed herein for patterns of expression that are predictive of liver inflammation in the recipient organism. This type of toxicity is significant as a toxic effect of many

chemical agents and is a significant component of adverse reactions to pharmaceuticals and drugs (see, for example, Treinen-Moslen, M. in Casarett and Doull's Toxicology: The Basic Science of Poisons Sixth Edition (C.D. Klaasen, ed.) Chp. 13., McGraw-Hill, New York, 2001). Adverse drug reactions are very often unpredictable, and may occur through acute exposure to the chemical agent or drug or through chronic exposures. For many drugs and chemical agents, inflammatory responses are implicated in amplifying or extenuating the initial toxic damage that occurs in the liver (see, for example, Treinen-Moslen, M., *ibid.*)

Another embodiment of the present invention provides that modulated transcriptional regulation of relatively small sets of certain genes in response to a test agent can accurately predict the occurrence of liver inflammation observed at later time points.

In yet another embodiment, the predictive model utilizes gene expression profiles from sets of liver inflammation predictive gene(s) selected from one of the various liver inflammation predictive gene sets disclosed herein (*i.e.*, Combination 5, 4, 3, 2, or 1), wherein the sets comprise one or more genes there from.

In still another embodiment, the predictive genes and models may be used to identify and evaluate various *in vitro* systems that can be used to accurately predict *in vivo* toxicity and to use the identified *in vitro* systems to accurately predict *in vivo* toxicity.

Provided herein are multiple sets of liver inflammation biomarkers which are useful in the practice of the liver inflammation prediction methods of the invention. In particular, applicants have identified 415 liver inflammation biomarkers which demonstrate utility in predicting liver inflammation. These biomarkers have been thoroughly characterized for their predictive performance, individually as well as in various combinations or subsets thereof. In addition, various optimized subsets of the liver inflammation biomarkers of the invention are disclosed. These sets have also been thoroughly characterized for predictive performance using the methods of the

invention. Among the subsets of liver inflammation genes provided herein are several which demonstrate prediction accuracies in the vicinity of about 85%.

Other embodiments of the present invention are further described by way of the experimental examples provided herein. These examples demonstrate that small sets of genes (*i.e.*, in some instances, as few as 1 biomarker gene) may be used to accurately predict liver inflammation. For example, as further described in the Examples, analysis of mRNA expression of only a few genes can provide an indication of whether a test agent will or will not induce liver inflammation.

The predictive capacity of the methods of the invention have been verified by comparisons with random classifications. Moreover, the methods of the invention are capable of distinguishing between agent dose levels that induce toxicity (typically higher doses) and those doses that are non-toxic. This latter feature is an important component of meaningful toxicological evaluation.

General Techniques: The several embodiments of the present invention employ, unless otherwise indicated, conventional techniques of molecular biology (including recombinant techniques), microbiology, cell biology, biochemistry, nucleic acid chemistry, and immunology, which are well known to those skilled in the art. Such techniques are explained fully in the literature, such as, *Molecular Cloning: A Laboratory Manual*, second edition (Sambrook et al., 1989) and *Molecular Cloning: A Laboratory Manual*, third edition (Sambrook and Russel, 2001), (jointly referred to herein as "Sambrook"); *Current Protocols in Molecular Biology* (F.M. Ausubel et al., eds., 1987, including supplements through 2001); *PCR: The Polymerase Chain Reaction*, (Mullis et al., eds., 1994); Harlow and Lane (1988) *Antibodies, A Laboratory Manual*, Cold Spring Harbor Publications, New York; Harlow and Lane (1999) *Using Antibodies: A Laboratory Manual* Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY (jointly referred to herein as "Harlow and Lane"), Beaucage et al. eds., *Current Protocols in Nucleic Acid Chemistry* John Wiley & Sons, Inc., New York, 2000) and Casarett and Doull's *Toxicology The Basic Science of Poisons*, C. Klaassen, ed.,

6th edition (2001).

Definitions: Unless otherwise defined, all terms of art, notations and other scientific terminology used herein are intended to have the meanings commonly understood by those of skill in the art to which this invention pertains. In some cases, terms with commonly understood meanings are defined herein for clarity and/or for ready reference, and the inclusion of such definitions herein should not necessarily be construed to represent a substantial difference over what is generally understood in the art. The techniques and procedures described or referenced herein are generally well understood and commonly employed using conventional methodology by those skilled in the art, such as, for example, the widely utilized molecular cloning methodologies described in Sambrook et al., *Molecular Cloning: A Laboratory Manual* 2nd edition (1989) Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y. As appropriate, procedures involving the use of commercially available kits and reagents are generally carried out in accordance with manufacturer defined protocols and/or parameters unless otherwise noted.

"Toxic" or "toxicity" refers to the result of an agent causing adverse effects, usually by a xenobiotic agent administered at a sufficiently high dose level to cause the adverse effects.

The term "liver inflammation" refers to an inflammatory response of the liver that can be initiated by physical injury, infection, or local immune response and can include local accumulation of fluid, plasma proteins and white blood cells, as well as migration and infiltration of neutrophils, lymphocytes, and other cells of the immune system into regions of damaged liver.

As used herein, the terms "liver inflammation biomarker" and "liver inflammation predictive gene" are used interchangeably and refer to a gene whose expression, measured at the RNA or protein level can predict the likelihood of a liver inflammation response.

A "toxicological response" refers to a cellular, tissue, organ or system level response to exposure to an agent. At the molecular level, this can include, but is not limited to, the differential expression of genes encompassing both the up- and down-regulation of expression of such genes at the RNA and/or protein level; the up- or down-regulation of expression of genes which encode proteins associated with response to and mitigation of damage, the repair or regulation of cell damage; or changes in gene expression due to changes in populations of cells in the tissue or organ affected in response to toxic damage.

An "agent" or "compound" is any element to which an individual can be exposed and can include, without limitation, drugs, pharmaceutical compounds, household chemicals, industrial chemicals, environmental chemicals, other chemicals, and physical elements such as electromagnetic radiation.

The term "biological sample" as used herein refers to substances obtained from an individual. The samples may comprise cells, tissue, parts of tissues, organs, parts of organs, or fluids (e.g., blood, urine or serum). Biological samples include, but are not limited to, those of eukaryotic, mammalian or human origin.

"Sample" is defined for the purposes of prediction as a biological sample and the gene expression data for that sample. Each sample may come from an individual animal. A toxicity classification may also be associated with the sample.

"Gene expression" as used herein refers to the relative levels of expression and/or pattern of expression of a gene. The expression of a gene may be measured at the DNA, cDNA, RNA, mRNA, protein level or combinations thereof.

"Gene expression profile" refers to the levels of expression of multiple different genes measured for the same sample. Gene expression profiles may be measured in a sample, such as samples comprising a variety of cell types, different tissues, different organs, or fluids (e.g., blood, urine, spinal fluid, sweat, saliva or serum) by various methods including but not limited to microarray technologies and quantitative

and semi-quantitative RT-PCR (e.g., Taqman™) techniques, as well as techniques for measuring expression of proteins.

"Individual" refers to a vertebrate, including, but not limited to, a human, non-human primate, mouse, hamster, guinea pig, rabbit, cattle, sheep, pig, chicken, and dog.

As used herein, the terms "hybridize", "hybridizing", "hybridizes" and the like, used in the context of polynucleotides, are meant to refer to conventional hybridization conditions, such as hybridization in 50% formamide/6X SSC/0.1% SDS/100 µg/ml ssDNA, in which temperatures for hybridization are above 37 degrees Celsius and temperatures for washing in 0.1X SSC/0.1% SDS are above 55 degrees Celsius, and preferably to stringent hybridization conditions. The hybridization of nucleic acids can depend upon various factors such as their degree of complementarity as well as the stringency of the hybridization reaction conditions. Stringent conditions can be used to identify nucleic acid duplexes with a high degree of complementarity. Means for adjusting the stringency of a hybridization reaction are well-known to those of skill in the art. See, for example, Sambrook, *et al.*, "Molecular Cloning: A Laboratory Manual," Second Edition, Cold Spring Harbor Laboratory Press, 1989; Ausubel, *et al.*, "Current Protocols In Molecular Biology," John Wiley & Sons, 1996 and periodic updates; and Hames *et al.*, "Nucleic Acid Hybridization: A Practical Approach," IRL Press, Ltd., 1985. In general, conditions that increase stringency (*i.e.*, select for the formation of more closely matched duplexes) include higher temperature, lower ionic strength and presence or absence of solvents; lower stringency is favored by lower temperature, higher ionic strength, and lower or higher concentrations of solvents.

In the context of amino acid sequence comparisons, the term "identity" is used to express the percentage of amino acid residues at the same relative position which are the same. Also in this context, the term "homology" is used to express the percentage of amino acid residues at the same relative positions which are either identical or are similar, using the conserved amino acid criteria of BLAST analysis, as is generally

understood in the art. Further details regarding amino acid substitutions, which are considered conservative under such criteria, are discussed below.

Identification of Liver Inflammation Biomarkers: Generation of Toxicology Gene Expression Databases: The liver inflammation biomarkers described herein were initially identified utilizing a database generated from large numbers of *in vivo* experiments, wherein the differential expression of approximately 700 rat genes, measured at various time points, in response to multiple toxic compounds inducing various specific toxic responses, as visualized through microscopic histopathological analysis, was quantified, as described in pending United States Patent Application filed January 29, 2002 (serial number 10/060,893). This quantitative gene expression data, as well as corresponding histopathological information, was then subjected to an analytical approach specifically designed to identify genes which not only correlated with the observed histopathology, but also demonstrated an ability to be used in a model capable of accurately predicting the occurrence of the toxic response associated with the observed histopathology. A detailed description of this identification process is presented in the Examples. A flow diagram illustrating how the liver inflammation biomarkers of one embodiment of the present invention were identified is illustrated in Figure 1.

In addition to the database described and utilized herein, other toxicology gene expression databases may be generated, and used to identify additional liver toxicity biomarkers, which may also be employed in the practice of the liver inflammation prediction methods of the invention. Such databases may be generated with test compounds capable of inducing various pathologies indicative of a toxic response in the liver and/or other organs or systems, over different time periods and under different administration and/or dosing conditions, including without limitation hepatocellular necrosis, regenerative proliferation, neoplasia, apoptosis, fibrosis, and cirrhosis. An example of compounds, dose levels, liver toxicity classifications and histopathology scores used in the Examples which follow are provided in Table 1. The compounds and dose levels are abbreviated in the Abbreviation Column. The

Inflammation Score relates the histopathology liver inflammation, a score of "2" or higher indicates histopathology of increasing severity.

Such databases may be generated using organisms other than the rat, including without limitation, animals of canine, murine, or non-human primate species. In addition, such databases may incorporate data derived from human clinical trials and post-approval human clinical experiences. Various methods for detecting and quantitating the expression of genes and/or proteins in response to toxic stimuli may be employed in the generation of such databases, as are generally known in the art. For example, microarrays comprising multiple cDNAs or oligonucleotide probes capable of hybridizing to corresponding transcripts of genes of interest may be used to generate gene expression profiles. Additionally, a number of other methods for detecting and quantitating the expression of gene transcripts are known in the art and may be employed, including without limitation, RT-PCR techniques such as TaqMan®, RNase protection, branched chain, etc.

Databases comprising quantitative gene expression information preferably include qualitative and quantitative and/or semi-quantitative information respecting the observed toxicological responses and other conventional toxicology endpoints, such as for example, body and organ weights, serum chemistry and histopathology observations, histopathology scores and/or similar parameters.

Identification of Correlating Genes: For the purpose of identifying candidate predictive genes, the database preferably includes histopathology scores for each animal which has been exposed to one or more agent(s). These scores can be assigned based on actual histopathology observations for the tissue and animal or on the basis of effects observed for other animals treated with the same agent and dose level. The scores are numerical scores that reflect the occurrence and severity of histopathological changes. These scores can be adjusted to have similar range to gene expression changes. For example, a score of 1 could be assigned to samples with no changes and scores of 2-8 assigned to increasingly severe changes. Because

the scores are numerical, they are suitable for use with a variety of statistical correlation and similarity measures.

An example of a histopathology scoring system is provided in Example 1. Referring now to Figure 1, histopathology scores may be utilized to identify genes which correlate with the observed toxicological response, using any number of statistical correlation and similarity analysis techniques, including without limitation those correlation or similarity measures described or employed in Example 1 (e.g., Pearson, Spearman, change, smooth, distance etc.). Such correlating genes may be used as predictive gene candidates. Examples of genes whose expression at 24 hours after treatment correlates with histopathology observed at 72h are detailed in Tables 3 and 4. In one embodiment, the correlating gene lists as well as the entire array gene list are used as input gene lists in the GeneSpring™ (Version 4.1, Silicon Genetics, Redwood City, CA) Predict Parameter Values tool (otherwise known hereafter as "Predictive Model").

Class Prediction and Classification: Statistical analysis of the database of gene expression profiles can be affected by utilizing commercially available software programs. In one embodiment, GeneSpring™ is used. Other software programs which can be used for statistical analysis are SAS software packages (SAS Institute Inc., Cary, NC) and S-PLUS® software (Insightful Corporation, Seattle, WA).

Using GeneSpring™ software, class predictions can be made from the genes in the database, as detailed in Example 1, using one or more training and test sets. In one embodiment, five training sets and five test sets are obtained, as shown in Example 1 (Table 2). Liver toxicological classifications are entered for the samples in each training and test set. Compounds that did not elicit histopathology (score =1) are identified as negative for training and test sets. Compounds that elicit histopathology (score of 2 or greater) are identified as positive for training and test sets. Compounds denoted with Low indicates low dose of the compound is administered. Compounds denoted with High, indicates high dose of the compound is administered. Compound

abbreviations in Table 2 are defined in Table 1. Toxicological classifications can be defined by the presence or the absence of various pathologies. In yet another embodiment, toxicity observed as inflammation is defined as three classifications' (*i.e.* liver necrosis, liver necrosis with inflammation, or no histopathology (negative)) observed 72 hours after treatment with an agent. In another embodiment, toxicity observed as inflammation is defined as two classifications (*i.e.* liver inflammation or no inflammation) observed 72 hours after treatment with an agent. However, toxicity can manifest in other liver pathologies such as regenerative proliferation, neoplasia, apoptosis, fibrosis, and cirrhosis. More complex (four or more) classifications can be used in defining multiple pathologies.

Once the training sets have been selected, then predicted classifications of the test set samples are obtained by using k-nearest neighbor (or *knn*) voting procedure. The class in which each of the *knn* is determined and the test sample is assigned to the class with the largest representation after adjusting for the proportion of classifications in the training set. In one embodiment, adjustments are made to account for different proportions of classes in the training set.

Toxicity can also be observed at various time points after exposure to an agent and is not limited to only 72 hour after treatment. A skilled toxicologist can determine the optimal time after exposure to an agent to observe pathology by either what has been disclosed in the art or a stepwise experimentation with time increments, for example 2, 4, 6, 12, 18, 24, 36, 48 hours post-exposure or even longer time increments, for example, days, weeks, or months after exposure to the agent.

Identification of Predictive Genes: Referring now to Figure 1, a description of the process used to identify liver inflammation predictive genes in one embodiment of the present invention is illustrated. According to this embodiment of the present invention, the process is run independently for each time point.

The number of input genes that are to be used in the Predictive Model can be varied, for example 50, 40, 30, 20, 10, 5, 2, or 1 gene(s) can be used. In one

embodiment, at least 50 genes are used.

A gene list is generated comparing high predictive accuracy to the number of genes used. In one embodiment, optimum gene lists for all input gene lists are combined for each training and test set and then these combined lists for all five training and test sets are merged to create an aggregate list of predictive genes. The aggregate list can then be subdivided to smaller lists of genes based on the number of times that the genes occurred on the predictive gene lists for an individual training or test set. The resulting gene lists are designated herein as Combo 5, 4, 3, 2, or 1 lists. The genes that were predictive in all 5 training and test sets are designated as Combo 5 and the genes that were predictive in 4 of 5 training and test sets are designated as Combo 4 and so forth. Table 26 presents gene names, accession numbers and sequence information for the liver inflammation predictive genes found by analysis of the database in the manner described above in accordance with one embodiment of the present invention. Each of these genes has been demonstrated to contribute to predictive performance for at least one input gene list and training/test set and one time point. Table 25 lists homologous genes for the RCT sequences that were identified by BLAST search using the GeneBank NR database as the target database. Referring now to Table 25, homologies are given from Blast searches using Phase 1/RCT sequence as the query sequence and GeneBank NR database as the target sequence database in accordance with one embodiment of the present invention. The best Blast homology sequence observed is given. In general, no significant homology indicates that no Blast match was observed with a BIT score > 100.

Evaluation of Predictive Genes for Liver Inflammation: The predictive genes are evaluated for predictive performance as illustrated in Figure 2. For each gene list prediction, a table of data is generated using the Predictive Model which includes: the test set containing information about the actual call (*i.e.*, negative, necrosis with inflammation, necrosis), the predicted call (*i.e.*, negative, necrosis with inflammation, necrosis), and the P-value cutoff ratio. Expression data that can be used with the K-nearest neighbor model and predictive genes to enable one skilled in the art to make

predictions are given in Tables 28-30.

Referring now to Table 28, gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes as presented in Table 18.

Referring now to Table 29, gene expression data for 24 hour timepoint are presented as mean ratio of treatment/control for all 24 hour predictive genes as presented in Table 5.

Referring now to Table 30, (1) gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes as presented in Table 23. (2) Compound Dose indicates that compound and dose abbreviations are defined in Table 1. (3) Animal Number indicates the number of the individual animal in which the compound is tested. (4) Liver inflammation toxicity classification information as for compound-dose group at 72 h: yes -necr, indicates that necrosis was observed; yes-both, indicates that necrosis with inflammation was observed; no, indicates that no histopathology was observed. (5) Gene name is the Predictive gene (as in Table 23 and as included in Table 26).

The combined list of predictive genes or alternatively, Combo 5, 4, 3, 2, or 1 list or subsets thereof is used as input into the Predictive Model. As an external verification of the predictive abilities of the genes found to be predictive for liver inflammation, random lists of genes may be generated and also used as input into the Predictive Model. Example 2 describes the evaluation of the predictive performance of the liver inflammation predictive genes.

Predictive performance may also be assessed using data from different time points after exposure to the agent. In one embodiment, 24 hour expression data is used. In another embodiment, 6 hour expression data is used, as described in Examples 3 and 4. In another embodiment, 72 hour expression data is used, as described in Example 5 and 6. As illustrated in Table 9, the predictive accuracy using

24 hour expression data and the largest predictive gene list is about 86%.

Somewhat lower predictive accuracies were observed for the 6h and 72 h data. All of the combo lists as well as Combo All list had significantly higher accuracy than using random classifications.

Predictive performance may also be assessed using subsets of genes from the different Combo lists. As indicated in Example 2, most randomly selected subsets of the Combo gene lists yielded predictive performances of about 70% or greater and even individual genes had mean predictive accuracies that were often greater than about 70%. In one embodiment, using 10 genes from Combo All yields about 84% accuracy. Using different Combo lists may require a greater number of genes to reach the same accuracy level.

The liver inflammation predictive genes disclosed herein and liver inflammation predictive genes identified by using methods disclosed herein are useful for predicting liver inflammation in response to exposure to one or more agents.

The discovery that relatively small sets of different genes have predictive value permits flexible applications. The choice of how many and which genes to use can be tailored to a variety of different purposes. Predictivity is observed for sets of a few genes. These small sets may be particularly advantageous in applications where measurement of only a few RNA species has considerable advantages in terms of sample processing logistics, speed and cost. These applications would include relatively high throughput screens for predictive capability. An example of this would be an early screen using small samples of primary cells or cultured cell lines that can be processed with automated robotic equipment for treatment and isolation of RNA followed by efficient technologies for measuring expression of a few RNA species such as branched chain technology or RT-PCR.

The use of larger numbers of predictive genes provides redundancy which may improve accuracy and precision. Applications using larger numbers of predictive

genes may include, for example, tests of drug candidates at later stages of commercial development. In this regard, larger numbers of predictive genes may be desirable at later stages of preclinical development of a therapeutic candidate, where *in vivo* samples can be obtained and more comprehensive methods such as microarray measurement of gene expression are appropriate. The larger gene sets can also include different subsets of genes which may offer more insight into potential mechanisms of toxicity, providing the potential to predict long term toxic consequences such as chronic, irreversible toxicity or carcinogenicity.

Some genes within the liver inflammation predictive gene sets provided herein may also be suitable for prediction of toxicity in other organs or may be preferable for predicting toxicity for wider ranges of timepoints or treatment routes or regimens. As an example of the latter, some of the predictive genes are observed at three different timepoints after treatment. These genes may be useful for prediction in cases where the samples come from treatment protocols that have different measurement timepoints or routes of administration than those employed for the database used in the discovery of the predictive genes disclosed herein or where the toxicokinetics for a particular agent are known or suspected to be different from those in the database.

In one embodiment, the agent is an agent for which no expression profile has been assessed or stored in the database or library. An animal, *e.g.*, rat, is dosed with such an agent and the gene expression profile(s) is the test set for the Predictive Model. The training set which is used in the Predictive Model in this case can be the entire database of sample array data because the test set data is not present in the database. The prediction can be made with accuracy without the use of histopathology scores as part of the input into the Predictive Model.

In another embodiment the agent is an agent present in the database but is used at a different dose level or with a different treatment protocol than used in the database. The training set which is used in the Predictive Model in this case can be the entire database of sample array data because the test set data is not present in

the database. Again, the prediction can be made with accuracy without the use of histopathology scores as part of the input into the Predictive Model.

In another embodiment, the exposure time of the agent is other than 6, 24, or 72 hours, or repeat dosing protocols are used. In this case, the skilled artisan can use the predictive toxicity genes from surrounding time points to extrapolate the predicted toxicity without undue experimentation. For example, if the individual has been exposed to the agent for 12 hours, then predictive genes from 6 and 24 hours timepoints are used as guidelines for extrapolating toxicity predictions.

In another embodiment, the liver inflammation predictive genes and a predictive model can be used to determine the presence or absence of a no-observed toxicity effect level. An agent can be used at different treatment levels and expression profiles obtained for each treatment level. The predictive genes and predictive model can be used to determine which dose levels elicit a response that is predicted to be toxic and which dose levels are not toxic. In contrast to conventional endpoints for determining no-effect levels, the use of expression data, predictive genes and predictive models applies a number of quantitative endpoints and criteria instead of subjective endpoints and criteria. This permits more rigorous and precisely defined determination of no effect levels.

In another embodiment, the liver inflammation predictive genes can be used to detect toxic effects that may be manifested as long lasting or chronic consequences such as irreversible toxicity or carcinogenesis. The predictive genes and model can be applied to databases where classifications of training and test set samples are made with respect to actual or putative endpoints such as irreversible toxicity or carcinogenicity.

In another embodiment, the predictive genes can be used in a variety of alternative models to predict liver inflammation. Some of these models do not require the direct use of data in a database but use functions or coefficients derived from the database. In another embodiment, the predictive genes and models may be used to

evaluate *in vitro* systems for their ability to reflect *in vivo* toxic events and to use such *in vitro* systems for predicting *in vivo* toxicity. Expression profiles for predictive genes can be created from candidate *in vitro* assays using treatments with agents of known *in vivo* toxicity and for which *in vivo* data on gene expression are available. The expression data and predictive models of this invention can be used to determine whether the *in vitro* assay system has predictive gene expression responses that accurately reflect the *in vivo* situation. Large sets of predictive genes as described in one embodiment of the present invention can be tested in such models for their suitability and performance with the candidate *in vitro* systems. This is a superior and novel tool for evaluating and optimizing *in vitro* systems for their ability to reflect and accurately predict *in vivo* responses.

In another embodiment, the predictive genes and models may be used with an *in vitro* system to accurately predict *in vivo* toxicity. *In vitro* systems that have been evaluated and optimized as described above are treated with test agents and expression profiles are measured for predictive genes. The expression profiles are used in conjunction with a predictive model to predict *in vivo* toxicity. In this embodiment, there can be considerable reduction in the use of laboratory animals. Additionally the application of this embodiment to *in vitro* human systems can provide a unique capability to accurately predict human toxic responses without human *in vivo* exposure or treatment.

In another embodiment, measurement of the expression levels of the proteins encoded by the predictive genes can be used in conjunction with predictive models to predict toxicity. Among the full set of liver inflammation predictive genes are various genes known to encode cell surface, secreted and/or shed proteins. This enables the development of methods for predicting toxicity using protein biomarkers. For example, as disclosed in Table 27, there are 39 genes in the master predictive set which are known to encode secreted proteins. The protein products are easier to access since they are secreted into body fluids and are thus more amenable to be quantified. Thus, in another aspect of the present invention, liver inflammation predictive assays which

detect the expression of one or more of said predictive proteins may be developed. Such assays may have several advantages, such as:

Ability to use archived tissue specimens such as preserved or embedded tissues which are not suitable for measurement of RNA expression.

Ability to examine predictive protein expression in tissue slides using *in situ* labeling and microscopic observation. This is useful for detecting predictive toxicity signals occurring in very small sub-populations of cells.

Ability to detect protein markers in specimens that can be readily obtained with little or no invasiveness (e.g., blood, urine, sweat, saliva).

Reduction in animal use in laboratory studies such that no sacrifice of animals necessary to obtain tissue specimens when toxicity prediction can be made with specimens that can be obtained without animal sacrifice or surgery.

Application for human use where tissue specimens cannot be obtained or are only obtained with great difficulty.

In another embodiment, the identified predictive genes can be considered as potential therapeutic targets when the genes are involved in toxic damage or repair responses whose expression or functional modification may attenuate, ameliorate or eliminate disease conditions or adverse symptoms of disease conditions.

In another embodiment the predictive genes can be organized into clusters of genes that exhibit similar patterns of expression by a variety of statistical procedures commonly used to identify such coordinate expression patterns. Common functional properties of these clustered genes can be used to provide insight into the functional relationship of the response of these genes to toxic effects. Common genetic properties of these genes (e.g., common regulatory sequences) may provide insight into functional aspects by revealing known or novel similarities in the coding region of the genes. The presence of common known or novel signal transduction systems that

regulate expression of the genes can also provide functional insight. The presence of common known or novel regulatory sequences in the identified predictive genes can also be used to identify additional liver inflammation predictive genes.

In yet another embodiment, the liver inflammation predictive genes can be used to predict toxicity responses in other species, for example, human, non-human primate, mouse, hamster, guinea pig, hamster, rabbit, cattle, sheep, pig, chicken, and dog. Some members of the liver inflammation predictive genes may also be more suitable for prediction of toxicity in species other than the species used to derive the database (rat in the case of the examples provided). One method for identifying such genes involves examining DNA sequence databases to identify and characterize orthologous sequences to the predictive genes in the target species. One of skill in the art can examine the orthologous sequences for similarity in amino acid coding regions and motifs as well as for similarities in regulatory regions and motifs of the gene.

In another embodiment, liver inflammation predictive genes or gene sequences are used for screening other potential toxicity predictive genes or gene sequences in other species or even within the same species using methods known in the art. See, for example, Sambrook *supra*. Gene sequences which hybridize under stringent conditions to the liver inflammation predictive gene sequences disclosed herein may be selected as potential toxicity predictive genes. Additionally, genes which demonstrate significant homology with the liver inflammation predictive genes disclosed herein (preferably at least about 70%) may be selected as toxicity predictive gene candidates. It is understood that conservative substitutions of amino acids are possible for gene sequences which have some percentage homology with the liver inflammation predictive gene sequences of this invention. A conservative substitution in a protein is a substitution of one amino acid with an amino acid with similar size and charge. Groups of amino acids known normally to be equivalent are: (a) Ala, Ser, Thr, Pro, and Gly; (b) Asn, Asp, Glu, and Gln; (c) His, Arg, and Lys; (d) Met, Glu, Ile, and Val; and (e) Phe, Tyr, and Trp.

It is understood that the predictive liver inflammation genes can be used as guides to predicting toxicity for agents that have been administered via different routes (intraperitoneal, intravenous, oral, dermal, inhalation, mucosal, etc.) from the routes that were used to generate the database or to identify the liver inflammation predictive genes. Furthermore, the invention is not intended to be limiting to agents that have been administered at different dosages than the agents that were used to generate the database or to identify the predictive liver inflammation genes.

Data described in the examples were generated using the microarray technology disclosed in the Examples. However, the invention is not dependent on using this particular platform. Other similar gene expression analysis technologies may be incorporated in the practice of this invention. These can include, but are not limited to, other arrays containing the predictive genes, RT-PCR (e.g., TaqMan®), branched chain technology, RNase protection or any other method which quantitatively detects the expression of RNA polynucleotides. Embodiments of the present invention can be practiced using these other technologies by generating a database of expression measurements for the predictive genes using samples such as those used in the database described in Example 1. This database can then be used in a model such as the K-nearest neighbor model or can be used to develop any of a number of other models.

The following Examples are provided to illustrate but not to limit the invention in any manner.

EXAMPLES

Example 1 Database of Compounds and Liver Inflammation: Compounds and treatments list used to construct the liver database are given in Table 1. This table also provides the evaluation of the liver inflammation observed in samples collected 72 hours after treatment.

Sprague Dawley rats Crl:CD from Charles River, Raleigh, NC were divided into treated rats that receive a specific concentration of the compound (see Table 1) and

the control rats that only received the vehicle in which the compound is mixed (e.g., saline).

At specified timepoints (6h, 24h and 72h) after administration (intraperitoneal route) of the compound, a set number of rats (usually 3 control and 3 treated) were euthanized and tissues collected. Each rat was heavily sedated with an overdose of CO₂ by inhalation and a maximum amount of blood drawn. Exsanguination of the rat by this drawing of blood kills the rat. The method of collecting the tissues is very important and ensures preserving the quality of the mRNA in the tissues. The body of the rat was then opened up and prosectors rapidly removed the tissues (including liver) and immediately placed them into liquid nitrogen. All of the organs/tissues were completely frozen within 3 minutes of the death of the animal to ensure that mRNA did not degrade. The organs/tissues were then packaged into well-labeled plastic freezer quality bags and stored at -80 degrees until needed for isolation of the mRNA from a portion of the organ/tissue sample.

Isolating DNA/RNA from animal tissues or cells: Total RNA was isolated from liver tissue samples using the following materials: Qiagen RNeasy midi kits, 2-mercaptoethanol, liquid N₂, tissue homogenizer, dry ice samples were kept on ice when specified.

If a tissue needed to be broken, then the tissue sample was placed on a double layer of aluminum foil which was then placed within a weigh boat containing a small amount of liquid nitrogen. The aluminum foil was folded around the tissue and then struck by a small foil-wrapped hammer to administer mechanical stress forces.

About 0.15-0.20 g of liver tissue was weighed out and placed in a sterile container. To preserve integrity of the RNA, all tissues were kept on dry ice when other samples were being weighed. A RLT (Qiagen®) buffer was added to the sample to aid in the homogenization process. The tissue was homogenized using commercially available homogenizer (IKA Ultra Turrax T25 homogenizer) with the 7 mm microfine sawtooth shaft and generator (195 mm long with a processing range of 0.25 ml to 20 ml, item #

372718). After homogenization, samples were stored on ice until all samples were homogenized. The homogenized tissue sample was spun to remove nuclei thus reducing DNA contamination. The supernatant of the lysate was then transferred to a clean container containing an equal volume of 70% EtOH in DEPC treated H₂O and mixed. RNA was isolated by putting the supernatant through an RNeasy spin column, washed, and subsequently eluted. Small quantities of remaining DNA were removed by use of DNase enzyme during the RNA isolation procedure following the instructions provided by Qiagen and alternatively by lithium chloride (LiCl) precipitation following the RNA isolation. The isolated RNA pellet was stored in Rnase-free water or in an RNA storage buffer (10 mM sodium citrate), Ambion Cat #7000. The RNA amount was then quantitated using a spectrophotometer.

Rat 700 CT chip: Gene expression data was generated from a microarray chip that has a set of toxicologically relevant rat genes which are used to predict toxicological responses. The rat 700 CT gene array is disclosed in pending U.S. applications 60/264,933; 60/308,161; and pending application filed on January 29, 2002 (serial number 10/060,893).

Microarray RT reaction: Fluorescence-labeled first strand Cdna probe was made from the total RNA or Mrna isolated from livers of control and treated rats. This probe was hybridized to microarray slides spotted with DNA specific for toxicologically relevant genes. The materials needed are: total or messenger RNA, primer, Superscript II buffer, dithiothreitol (DTT), nucleotide mix, Cy3 or Cy5 dye, Superscript II (RT), ammonium acetate, 70% EtOH, PCR machine, and ice.

The volume of each sample that would contain 20µg of total RNA (or 2µg of Mrna) was calculated. The amount of DEPC water needed to bring the total volume of each RNA sample to 14 µl was also calculated. If RNA was too dilute, the samples were concentrated to a volume of less than 14 µl in a speedvac without heat. The speedvac must be capable of generating a vacuum of 0 Milli-Torr so that samples can freeze dry under these conditions. Sufficient volume of DEPC water was added to bring the total

volume of each RNA sample to 14 μ l. Each PCR tube was labeled with the name of the sample or control reaction. The appropriate volume of DEPC water and 8 μ l of anchored oligo Dt mix (stored at -20°C) was added to each tube.

Then the appropriate volume of each RNA sample was added to the labeled PCR tube. The samples were mixed by pipeting. The tubes were kept on ice until all samples are ready for the next step. It is preferable for the tubes to kept on ice until the next step is ready to proceed. The samples were incubated in a PCR machine for 10 minutes at 70°C followed by 4°C incubation period until the sample tubes were ready to be retrieved. The sample tubes were left at 4°C for at least 2 minutes.

The Cy dyes are light sensitive, so any solutions or samples containing Cy-dyes should be kept out of light as much as possible (e.g., cover with foil) after this point in the process. Sufficient amounts of Cy3 and Cy5 reverse transcription mix were prepared for one to two more reactions than would actually be run by scaling up the following: For labeling with Cy3:

8 μ l 5x First Strand Buffer for Superscript II, 1 μ l 0.1 M DTT, 2 μ l Nucleotide Mix, 2 μ l of 1:8 dilution of Cy3 (e.g., 0.125Mm cy3Dctp), and 2 μ l Superscript II

For labeling with Cy5.

8 μ l 5x First Strand Buffer for Superscript II, 4 μ l 0.1 M DTT, 2 μ l Nucleotide Mix, 2 μ l of 1:10 dilution of Cy5 (e.g., 0.1Mm Cy5Dctp), and 2 μ l Superscript II

About 18 μ l of the pink Cy3 mix was added to each treated sample and 18 μ l of the blue Cy5 mix was added to each control sample. Each sample was mixed by pipeting. The samples were placed in a DNA engine (PTC-200 Petier Thermal Cycler, MJ Research) for 2 hours at 45°C followed by 4°C until the sample tubes were ready to be retrieved.

In addition to the desired cDNA product, the completed RT reaction contained impurities that must be removed. These impurities included excess primers, nucleotides, and dyes. The primary method of removing the impurities was by following the instructions in the QIAquick PCR purification kit (Qiagen cat#120016).

Alternatively, the completed RT reactions were cleaned of impurities by ethanol precipitation and resin bead binding. The samples from DNA engine were transferred to Eppendorf tubes containing 600 μ l of ethanol precipitation mixture and placed in -80°C freezer for at least 20-30 minutes. These samples were centrifuged for 15 minutes at 20800 x g (14000 rpm in Eppendorf model 5417C) and carefully the supernatant was decanted. A visible pellet was seen (pink/red for Cy3, blue for Cy5). Ice cold 70% EtOH (about 1 ml per tube) was used to wash the tubes and the tubes were subsequently inverted to clean tube and pellet. The tubes were centrifuged for 10 minutes at 20800 x g (14000 rpm in Eppendorf model 5417C), then the supernatant was carefully decanted. The tubes were air dried for about 5 to 10 minutes, protected from light. When the pellets were dried, they were resuspended in 80 μ l nanopure water. The cDNA/mRNA hybrid was denatured by heating for 5 minutes at 95°C in a heat block and flash spun. Then the lid of a "Millipore MAHV N45" 96 well plate was labeled with the appropriate sample numbers. A blue gasket and waste plate (v-bottom 96 well) was attached. About 160 μ l of Wizard DNA Binding Resin (Promega cat#A1151) was added to each well of the filter plate that was used. Probes were added to the appropriate wells (80 μ l cDNA samples) containing the Binding Resin. The reaction is mixed by pipeting up and down ~ 10 times. The plates were centrifuged at 2500 rpm for 5 minutes (Beckman GS-6 or equivalent) and then the filtrate was decanted. About 200 μ l of 80% isopropanol was added, the plates were spun for 5 minutes at 2500 rpm, and the filtrate was discarded. Then the 80% isopropanol wash and spin step was repeated. The filter plate was placed on a clean collection plate (v-bottom 96 well) and 80 μ l of Nanopure water, pH 8.0-8.5 was added. The pH was adjusted with NaOH. The filter plate was secured to the collection plate and after 5 minutes was centrifuged for 7 minutes at 2500 rpm.

Purification of Cy -Dye Labeled cDNA: To purify fluorescence-labeled first strand cDNA probes, the following materials were used: Millipore MAHV N45 96 well plate, v-bottom 96 well plate (Costar), Wizard DNA binding Resin, wide orifice pipette tips for 200 to 300 μ l volumes, isopropanol, nanopure water. It is highly preferable to keep the

plates aligned at all times during centrifugation. Misaligned plates lead to sample cross contamination and/or sample loss. It is also important that plate carriers are seated properly in the centrifuge rotor.

The lid of a "Millipore MAHV N45" 96 well plate was labeled with the appropriate sample numbers. A blue gasket and waste plate (v-bottom 96 well) was attached. Wizard DNA Binding Resin (Promega cat#A1151) was shaken immediately prior to use for thorough resuspension. About 160 μ l of Wizard DNA Binding Resin was added to each well of the filter plate that was used. If this was done with a multi-channel pipette, wide orifice pipette tips would have been used to prevent clogging. It is highly preferable not to touch or puncture the membrane of the filter plate with a pipette tip. Probes were added to the appropriate wells (80 μ l cDNA samples) containing the Binding Resin. The reaction is mixed by pipeting up and down ~10 times. It is preferable to use regular, unfiltered pipette tips for this step. The plates were centrifuged at 2500 rpm for 5 minutes (Beckman GS-6 or equivalent) and then the filtrate was decanted. About 200 μ l of 80% isopropanol was added, the plates were spun for 5 minutes at 2500 rpm, and the filtrate was discarded. Then the 80% isopropanol wash and spin step was repeated. The filter plate was placed on a clean collection plate (v-bottom 96 well) and 80 μ l of Nanopure water, pH 8.0-8.5 was added. The pH was adjusted with NaOH. The filter plate was secured to the collection plate with tape to ensure that the plate did not slide during the final spin. The plate sat for 5 minutes and was centrifuged for 7 minutes at 2500 rpm. Replicates of samples should be pooled.

Dry-down Process: Concentration of the cDNA probes is preferable so that they can be resuspended in hybridization buffer at the appropriate volume. The volume of the control cDNA (Cy-5) was measured and divided by the number of samples to determine the appropriate amount to add to each test cDNA (Cy-3). Eppendorf tubes were labeled for each test sample and the appropriate amount of control cDNA was allocated into each tube. The test samples (Cy-3) were added to the appropriate tubes. These tubes were placed in a speed-vac to dry down, with foil covering any

windows on the speed vac. At this point, heat (45°C) may be used to expedite the drying process. Samples may be saved in dried form at -20°C for up to 14 days.

Microarray Hybridization: To hybridize labeled cDNA probes to single stranded, covalently bound DNA target genes on glass slide microarrays, the following material were used: formamide, SSC, SDS, 2 µm syringe filter, salmon sperm DNA (Sigma, cat # D-7656), human Cot-1 DNA (Life Technologies, cat # 15279-011), poly A (40 mer: Life Technologies, custom synthesized), yeast tRNA (Life Technologies, cat # 15401-04), hybridization chambers, incubator, coverslips, parafilm, heat blocks. It is preferable that the array is completely covered to ensure proper hybridization.

About 30 µl of hybridization buffer was prepared per cDNA sample (control rat cDNA plus treated rat cDNA). Slightly more than is what is needed should be made since about 100 µl of the total volume made for all hybridizations can be lost during filtration.

Hybridization Buffer:	for 100 µl:
• 50% Formamide	50 µl formamide
• 5X SSC	25 µl 20X SSC
• 0.1% SDS	25 µl 0.4% SDS

The solution was filtered through 0.2 µm syringe filter, then the volume was measured. About 1 µl of salmon sperm DNA (10mg/ml) was added per 100 µl of buffer.

Alternatively, the hybridization buffer was made up as:

Hybridization Buffer:	for 101 µl:
• 50% Formamide	50 µl formamide
• 10X SSC	50 µl 20X SSC
• 0.2% SDS	1 µl 20% SDS

The solution was filtered through 0.2 µm syringe filter, then the volume was measured. One microliter of salmon sperm DNA (9.7mg/ml), 0.5 µl Human Cot-1 DNA

(5 $\mu\text{g}/\mu\text{l}$), 0.5 μl poly A (5 $\mu\text{g}/\mu\text{l}$), 0.25 μl Yeast tRNA (10 $\mu\text{g}/\mu\text{l}$) was added per 100 μl of buffer. The hybridization buffers were compared in validation studies and there was no change in differential gene expression data between the two buffers.

Materials used for hybridization were: 2 Eppendorf tube racks, hybridization chambers (2 arrays per chamber), slides, coverslips, and parafilm. About 30 μl of nanopure water was added to each hybridization chamber. Slides and coverslips were cleaned using N_2 stream. About 30 μl of hybridization buffer was added to dried probe and vortexed gently for 5 seconds. The probe remained in the dark for 10-15 minutes at room temperature and then was gently vortexed for several seconds and then was flash spun in the microfuge. The probes were boiled or placed in a 95 $^{\circ}\text{C}$ heat block for 5 minutes and centrifuged for 3 min at 20800 x g (14000 rpm, Eppendorf model 5417C). Probes were placed in 70 $^{\circ}\text{C}$ heat block. Each probe remained in this heat block until it was ready for hybridization.

About 25 μl was pipetted onto a coverslip. It is highly preferable to avoid the material at the bottom of the tube and to avoid generating air bubbles. This may mean leaving about 1 μl remaining in the pipette tip. The slide was gently lowered, face side down, onto the sample so that the coverslip covered that portion of the slide containing the array. Slides were placed in a hybridization chamber (2 per chamber). The lid of the chamber was wrapped with parafilm and the slides were placed in a 42 $^{\circ}\text{C}$ humidity chamber in a 42 $^{\circ}\text{C}$ incubator. It is preferable to not let probes or slides sit at room temperature for long periods. The slides were incubated for 18-24 hours.

Post-Hybridization Washing: To obtain only single stranded cDNA probes tightly bound to the sense strand of target cDNA on the array, all non-specifically bound cDNA probe should be removed from the array. Removal of all non-specifically bound cDNA probe was accomplished by washing the array and using the following materials: slide holder, glass washing dish, SSC, SDS, and nanopure water. Six glass buffer chambers and glass slide holders were set up with 2X SSC buffer heated to 30-34 $^{\circ}\text{C}$ and used to fill up glass dish to 3/4th of volume or enough to submerge the

microarrays. The slides were placed in 2X SSC buffer for 2 to 4 minutes while the cover slips fall off. The slides were then moved to 2X SSC, 0.1% SDS and soaked for 5 minutes. The slides were transferred into 0.1X SSC and 0.1% SDS for 5 minutes. Then the slides are transferred to 0.1X SSC for 5 minutes. The slides, still in the slide carrier, were transferred into nanopure water (18 megaohms) for 1 second. To dry the slides, the stainless steel slide carriers were placed on micro-carrier plates and spun in a centrifuge (Beckman GS-6 or equivalent) for 5 minutes at 1000 rpm.

The washed and dried hybridized slides were scanned on Axon Instruments Inc. GenePix 4000A MicroArray Scanner and the fluorescent readings from this scanner converted into quantitation files (.gpr) on a computer using GenePix software.

Array Data, Normalization and Transformation: GeneSpring™ software (Version 4.1, Silicon Genetics) was used for statistical analyses including identification of genes expressions correlating with histopathology scores, K-means and tree cluster analysis, and predictive modeling using the *k* nearest neighbor (Predict Parameter Values tool).

Microarray data were loaded into GeneSpring™ software for analysis as GenePix files as above. Specific data loaded into GeneSpring™ software included gene name, GenBank ID control channel mean fluorescence and signal channel mean fluorescence. Expression ratio data (ratio of signal to control fluorescence) were normalized using the 50th percentile of the distribution of all genes and control channel. Ratio data were excluded from analysis if the control channel value was <0. For analysis of correlations and predictive values gene expression ratios were transformed as the log of the ratio.

Correlation with Histopathology Scores: Histopathology scores for each animal (assigned on a compound-dose basis as indicated in Table 1) were entered with gene expression data by using the GeneSpring™ 'Drawn Gene' function. Correlations between inflammation histopathology scores and gene expression were conducted with the distance measures listed below:

standard positive and negative correlation

smooth	positive and negative correlation
change	positive correlation
upregulated	positive correlation
Pearson	positive and negative correlation
Spearman	positive and negative correlation
distance	positive correlation

These correlation or similarity measures are standard statistical correlation measures that are described in the GeneSpring Advanced Analysis Techniques Manual (Release Date March 13, 2001, Silicon Genetics). Where both positive and negative correlations were obtained combined positive and negative correlating gene lists were also created.

The Predict Parameter Values tool in GeneSpring™ software was used for liver inflammation class prediction. The following is a summary of the procedure used in the GeneSpring predictive software. This is described in GeneSpring Advanced Analysis Techniques Manual (Release Date March 13, 2001, Silicon Genetics) with additional information supplied by Silicon Genetics and a statistical expert. The prediction tool relies on standard statistical procedures that can be implemented in a variety of statistical software packages.

Gene Selection: The first step is variable selection of genes to be used for prediction. This entails taking a single gene and a single class (e.g., liver inflammation) and creating a contingency table. In the table below, columns 1 through N of the table each represent one possible cutoff point based on the gene expression level (ratio of signal/control) for that class. The number of possible cutoffs is less than or equal to the total number of samples for the class (e.g., A). It is possibly less than the total number, since there may be ties in gene expression level. Hence, N , M , and X may or may not be distinct. In the example, an n -class problem is illustrated, where x and y entries are the class counts at that gene expression cutoff level, for that specific gene and class, either above ("a") or below ("b") the cutoff. "Class1" is the set of all samples (above or below) the cutoff for Class1, and "!Class1" are all those not in Class1 (above or below) the cutoff, and similarly for the other classes. The class

totals in the training set are the total class marginals used to compute Fisher's exact test.

For a specific gene, and for each class, the best p -value as calculated by Fisher's Exact Test for independence between one of the pair of columns (e.g., 1a and 1b) and the actual class totals (e.g., A) is used to score the gene ($-\ln(p)$ = the score) for that class. Thus, there are N (or, M , Q etc.) contingency tables, where the best score of the N tables is used for that class and gene. If there is a wide disparity between the above and below counts in either the a or b column (this is a two-sided Fisher's Exact Test), the smaller the p -value and the higher the score.

The genes per class are rank ordered by the most discriminating (highest) score. The predictivity list is composed of the most discriminating genes per class. Namely, genes are combined that best discriminate class 1 with those that best discriminate class 2 and so on. The genes are selected in rotation of the highest score per class. Duplicate genes are ignored in the rotation and not added to the list, the gene with the next highest score is taken.

The training samples now have only the gene list garnered from the above procedure. As an example, where once the training samples may have had an initial list of 200 genes per sample, they now have only a subset composed of the gene list, say, 60 (the number of predictivity genes specified) that are selected from the initial list by the gene selections procedure. Thus, each sample is a vector of 60 normalized expression ratios. Since the selection of genes is done in rotation, for 2 classes, the list contains 30 genes for class one, and 30 genes for class two. For 3 classes the list contains 20 genes for class one, 20 for class two, and 20 for class three, etc. The matrix below illustrates the basic features of this gene selection process.

Gene 1	1a	1b	...	Na	Na	
Class	Expression above	Expression below	...	Expression above	Expression below	Actual Class Totals (Marginals)
Class1	x1.1a	x1.1b	...	x1.Na	x1.Nb	A

!Class1	y1.1a	y1.1b	...	y1.Na	y1.Nb	B
Gene 1	1	2	...	M		
Class2	x1.2a	x1.2b	...	x1.Ma		C
!Class2	y1.2a	y1.2b	...	y1.Ma		D
.
Gene 1	1	2	...	Qa	Qb	
Classn	x1.na	x1.nb	...	x1.Qa	x1.Qb	X
!Classn	y1.na	y1.nb	...	y1.Qa	y1.Qb	Y

After the genes to be used in the training set have been selected, the test set is classified based on the *k*-nearest neighbor (*knn*) voting procedure. Using just those genes in the gene list, for each sample in the test set of samples, the *k* nearest neighbors in the training set are found with the Euclidean distance. The class in which each of the *k* nearest neighbors is determined, and the test set sample is assigned to the class with the largest representation in the *k* nearest neighbors after adjusting for the proportion of classes in the training set.

For example, in a two-class problem, let there be 30 samples of class 1 and 60 samples of class 2 in the training set. With $k = 9$ say it can be determined that 7 of the nearest neighbors to a sample from the testing set are in class 1. The sample can then be classified as being a member of class 1. If another sample from the test set has a total of 4 nearest neighbors in class 1, after adjusting for the proportion, this sample would be assigned to class 1 rather than class 2, even though the majority vote suggests assignment to class 2.

The decision threshold is a mechanism to help clearly define the class into which the sample will fall, and can be set to reject classification if the voting is very close or tied. (Thus, *k* can be even for two-class problems without worrying about the tie problem.) A *p*-value is calculated for the proportion of neighbors in each class against the proportions found in the training set, again using Fisher's exact test, but now a one-sided test.

For example, let $k = 11$, if the proportion of neighbors of class 1 in the test set is

6/11, and the proportion of class 1 in a 100 sample training set is 0.4, the p -value calculated is 0.29 (half the two-sided test). If the proportion in the training set is 0.1, the p -value is 0.004. The smaller the p -value the greater the likelihood that the sample from the testing set belongs to that class.

A p -value ratio (P-value) is set as a way of setting the level of confidence in individual sample predictions based on the ratio of p -values for the best class (lowest p -value) versus the second best class (second lowest p -value). For example, if the P-value is set at 0.5 and the ratio of p -values for a particular sample is 0.6, then the predictive model will not make a call for that sample.

Data were each separated into 5 training and test sets by randomly distributing the compounds into the sets. This was accomplished by assigning random numbers to lists of compounds that are negative and positive for histopathology, sorting by random number, and then dividing the sorted lists into a specific number of training and test sets. The training and test set assignments are presented in Table 2.

Liver inflammation classifications were entered for training and test set as a parameter column. Toxicity, as defined by observation of liver necrosis or necrosis with inflammation at 72 hours after treatment, was entered as "negative", "positive-necrosis", or "positive-necrosis with inflammation" for each animal in a compound-dose group. Additionally, a parameter column for random histopathology classification was designated. This was done by randomly assigning the same number of "negative", "positive-necrosis", or "positive-necrosis with inflammation" calls to the individual animals.

The "Predict Parameter Value" tool of GeneSpring was used with each of the training and test sets to generate predictions of histopathology classifications of the test sets. The number of k nearest neighbors was optimized to give the highest predictive accuracy. This was done by first running predictions at different nearest neighbors for three of the training and test sets, and then evaluating the overall predictive performance for each number of nearest neighbors. A P-value ratio cutoff of

0.5 was used. The number of genes used to predict was varied with standard numbers of 50, 40, 30, 20, 10, 5, 2 and 1 genes used. For each number of genes the numbers of correct calls, incorrect calls and non-calls were recorded. Non-calls are cases where no prediction was made because the P-value ratio exceeded the specified P-value ratio cutoff. Calculations were made for overall percent correct calls (number of correct classifications/number of samples), percent correct calls of called samples (number of correct classifications/number of samples with calls) and percent of called samples (samples with calls/number of samples).

For each input list and optimal number of predictive genes (lowest number of genes giving a maximum overall percent of correct calls) additional information was recorded that included the list of specific genes in the optimum predictive set.

Expression array data were first examined for the existence of genes whose expression correlated with histopathology scores. Table 1 presents a list of the compounds and dose levels along with the liver histopathology classification and histopathology severity scores used for this analysis. For each distance measure the probability was adjusted in increments of 0.05 until at least 50 correlating genes were obtained. Lists of correlating genes were obtained using the distance measures described in Materials and Methods. Example sets of correlating genes are provided in Tables 3 and 4.

The correlating gene lists as well as the entire array gene list were provided as input lists to the GeneSpring Predict Parameter value tool (described in Materials and Methods) that employs a *k* nearest neighbor (*knn*) predictive model. These lists as well as the entire array gene list were used for each of the five training and test sets defined in Materials and Methods to generate predictions of histopathology classifications of the test sets. Input genes for the Predict Parameter Value feature included all 700 genes in the GenePix file (the rat CT Array) which were disclosed in a currently pending application (serial number 10/060,893) filed on January 29, 2002, as well as smaller lists of genes whose expressions correlated with histopathology by the

correlation measures described previously. The number of genes used to predict are varied with standard numbers of 50, 40, 30, 20, 10, 5, 2 and 1 genes used. The specified number of predictive genes was varied to obtain an optimum number of predictive genes.

After this was done for all 5 training and test sets, all gene lists were then merged to create one aggregate list of predictive genes. Each gene on this aggregate list has predictive value for at least one of the training and test sets because it was observed to contribute to an optimum predictivity for a specific training/test set. The aggregate list was subdivided into smaller lists of genes based on the number of times a gene was predictive for an individual training or test set. For example, if 5 training and test sets were used, genes that were predictive in all 5 training and test sets were designated as Combo (combination) 5. Genes that were predictive in only 4 of 5 training and test sets were designated as Combo 4, etc. A list of predictive genes organized by their occurrence in the separate training and test sets is presented in Table 5. The combination category is the number of training/test set gene lists occurrences.

Example 2

The database used was as described in Example 1.

Array data, normalization procedures and transformations used in these analyses are as described in Example 1. Table 29 presents 24 hour gene expression data for the predictive genes. These data can be used with a k nearest neighbor prediction model (as available in GeneSpring or other statistical software packages) to make predictions as described in this example.

The Predict Parameter Values tool in GeneSpring™ software was used for liver inflammation class prediction. A description of this tool and the statistical procedures used is provided in Example 1.

The training and test data sets used are those described in Table 2 of Example 1.

Liver inflammation classifications used are described in Table 1 of Example 1. In this analysis randomized classifications (same number of "negative", "positive-necrosis", or "positive-necrosis with inflammation" classifications distributed randomly among the samples) were also used.

Prediction Output and Initial Data Processing: For each predicting gene list used for evaluation a table of data generated by the Predict Parameter Values tool in GeneSpring™ software was saved which provided for each sample in the test set the actual call ("negative", "positive-necrosis with inflammation", or "positive-necrosis"), the predicted call ("negative", "positive-necrosis with inflammation", or "positive-necrosis") and the P-value cutoff ratio. This set of data was used to calculate predictive performance measures provided below.

Measures of prediction used for these analyses are generally accepted prediction measures for information about actual and predicted classifications done by a classification system (Modern Applied Statistics with S-Plus, W. N. and B. D. Ripley, Springer, 1994, 3rd edition.; Proc. 14th International Conference on Machine Learning, Miroslav Kubat, Stan Matwin, 1997). Results from predictions of a three class case can be described as a three-class matrix:

		Predicted		
		Class I	Class II	Class III
Actual	Class I	a	b	c
	Class II	d	e	f
	Class III	g	h	i

Class I is defined as "negative-no histopathology."

Class II is defined as "positive-necrosis with inflammation"

Class III is defined as "positive-necrosis".

Standard terms used for prediction for the three class case are:

Overall Accuracy is the proportion of total number of predictions that are correct = $(a + e + i) / (a + b + c + d + e + f + g + h + i)$

False Positive (Inflammation) rate (FPI) is the proportion of cases that are negative for inflammation (Class I or Class III) incorrectly classified as being positive for inflammation (Class II) = $(b + h) / (a + b + c + g + h + i)$

False Negative (Inflammation) rate (FNI) is the proportion of cases correctly classified as being positive for inflammation (Class II) that are incorrectly classified as negative for inflammation (Class I or Class III) = $(d + f) / (d + e + f)$

Geometric-mean is the performance measure that takes into account proportion of positive and negative cases (Kubat et al., *ibid*).

Geometric-mean (Inflammation) (GMM_I), which takes into account the proportion of positive and negative cases for inflammation, equals the square root of $TP_I * TN_I$ where TP_I = True Positive (Inflammation) rate $(e / (d + e + f))$ and TN_I = True Negative (Inflammation) rate $((a + i) / (a + b + c + g + h + i))$.

Geometric-mean (Necrosis) (GMM_N), which takes into account the proportion of positive and negative cases for necrosis, equals the square root of $TP_N * TN_N$ where TP_N = True Positive (Necrosis) rate $((h + i) / (g + h + i))$ and TN_N = True Negative (Necrosis) rate $((a) / (a + b + c))$.

In these analyses cases where no prediction was made because the p-value ratio exceeded the cutoff-value (generally 0.5) the non-call was considered to be incorrect. Non-calls of Class I samples are assumed to be Class II. Non-calls of Class II or Class III samples are assumed to be Class I.

Random Selected Gene Sets: Subsets of randomly selected genes were prepared

from the predictive gene sets to test whether such subsets would have predictive value. Assignments of genes to these subsets are presented in Tables 6-7. Genes were also randomly selected from the list of all genes excluding the 183 twenty-four hour predictive genes (also known as non-predictive genes) by assigning a random number to each gene, sorting by the random number and selecting the appropriate number of sorted genes. Assignments of genes to these subsets are presented in Table 8. The "*" identifies that the genes randomly selected from the Combo All list of predictive genes (183 genes) assigning a random number to each gene, sorting by the random number and selecting the appropriate number of sorted genes.

Results: Prediction results for 24 hour expression data using genes identified as predictive are presented in Table 9. Referring now to Table 9, "" denotes that values are given as means and range of values (in parentheses) for five training/test sets using 24 hour array data and gene lists as presented in Table 5. Unit of prediction was the animal and the predictive classification was for liver inflammation or necrosis observed at 72 hours after treatment.

"" denotes that standard prediction measures were used as defined in Materials and Methods above. These include:

Overall Accuracy = Proportion of total number of predictions that are correct; FP_I = False Positive (Inflammation) rate, the proportion of negative cases for inflammation that are incorrectly classified as positive for inflammation; FN = False Negative (Inflammation) rate, the proportion of positive cases for inflammation that are incorrectly classified as negative; GMM = Geometric Mean (Inflammation), performance measure that takes into account the proportion of positive and negative cases for inflammation; GMM_N = Geometric Mean (Necrosis), performance measure that takes into account the proportion of positive and negative cases for necrosis. Non-calls are counted as incorrect predictions as defined in Materials and Methods.

These data indicate a high accuracy in predicting liver inflammation. Mean accuracies were 0.85 (85% accuracy) or better for the entire predictive gene list

(Combo All) and the top two Combo gene lists (Combo 5 and Combo 3), and were close to 0.80 (80% accuracy) for the remaining Combo gene lists (Combo 2 and Combo 1). Because these predictions were conducted with multiple training/test set combinations it is possible to obtain an indication of the variability in prediction rates and robustness of the prediction capabilities of these gene sets. For the Combo All and other Combo lists the minimum predictive accuracy value for any one training and test set was greater than 0.70 (70%), with most lists giving 0.75 (75%) or better minimum accuracy. False positive and false negative prediction rates for inflammation (FP_I and FN_I , respectively) were generally low with means generally 0.17 (17%) or less for the Combo All, 5, and 3 gene sets.

The Geometric Mean (Inflammation) (GMM_I) was used as an indication of predictive performance that includes consideration of the proportion of positive and negative cases for inflammation. All gene sets gave GMM_I measures >0.75 (75%), and the Combo All, Combo 5, and Combo 3 gene sets had GMM_I measures >0.85 . The Geometric Mean (Necrosis) (GMM_N) was used as an indication of predictive performance that includes consideration of the proportion of positive and negative cases for necrosis. All gene sets gave GMM_N measures >0.80 (80%). Together, both GMM measures indicate that the 24 hour gene sets can predict samples with necrosis or samples with necrosis with inflammation.

As described above, in those cases where no prediction was made because the p-value ratio exceeded the cutoff-value (generally 0.5) the non-call was considered to be incorrect.

Prediction results for 24 hour expression data using genes identified as predictive and the predicting unit of compound-dose are presented in Table 10. Referring now to Table 10, the "****" denotes that overall accuracy is defined as the proportion of the total number of predictions that are correct. Non-Calls are counted as incorrect predictions as defined in Materials and Methods. This prediction unit is probably the most relevant for toxicology prediction. The performance of the genes in predicting compound-dose

toxicity is even better than predictions on an individual animal basis. These data indicate a high accuracy in predicting liver inflammation. Mean accuracy exceeded 0.86 (86% accuracy) for the entire predictive gene list (Combo All) as well as Combo 5 and Combo 3, and was greater than 0.80 (80% accuracy) for Combo 2 and Combo 1. Variability in accuracy was low for most of the gene lists with >0.7 (70%) minimum accuracy for any single training and test set observed for the Combo All and Combo 5, 3, 2 and 1 gene lists.

One noteworthy feature of the predictive capability is the ability to distinguish between effects of a compound at different dose levels. Five compounds (ANIT, APAP, CCL4, LPS, and TET) produced liver necrosis or necrosis with inflammation at the high dose but not at the low dose. The predictive gene sets were usually accurate in predicting toxicity at the high dose and predicting no toxicity at the low dose.

Prediction results for 24 hour expression data using genes identified as predictive and the predicting unit is compound are presented in Table 11. Referring to Table 11, "***" denotes Overall Accuracy to be defined as the proportion of the total number of predictions that are correct. Non-Calls are counted as incorrect predictions as defined in Materials and Methods. Predictive performances on a compound basis were also good, with accuracies generally being at or above 0.8 (80%).

Table 12 and 13 show the level of predictive accuracy of individual genes of Combos 3 and 2, respectively, for 24 hour liver data. The tables show that overall, individual genes of the Combo groups did not perform as well as the combination as a whole, as the average predictive accuracy of individual genes versus the entire combo set was 64.6% vs. 84.9% for Combo 3, and 64.9% vs. 79.3% for Combo 2. The table also shows that while many of the individual genes of the Combo groups were predictive (e.g., accuracies as high as 77.5% for individual genes of Combo 3 and 85.9% for Combo 2), the predictive accuracy of individual genes rarely exceeded the predictive accuracy of the whole combination.

In order to assess the performance of subsets of genes, predictive performance

was evaluated for subsets of genes randomly selected from the total combined predictive list (Combo All) and the top Combo sets (as defined in Materials and Methods). Prediction results for 24 hour expression data using randomly selected subsets of genes are presented in Table 14. Referring to Table 14, "***" denotes the combo gene lists as in Table 5. For combo lists all genes were used or randomly selected subsets of genes in Table 6 and Table 7. Referring now to Table 6, the genes were randomly selected from the Combo All list of predictive genes (183 genes) assigning a random number to each gene, sorting by the random number and selecting the appropriate number of sorted genes. Referring now to Table 7, the genes were randomly selected from the combined Combo 5 3 2 list of predictive genes (52 genes) assigning a random number to each gene, sorting by the random number and selecting the appropriate number of sorted genes. Referring now to Table 14, All-Pred used genes randomly selected from genes that were present on the array but not in the predictive list. "*** Overall Accuracy" is defined as the proportion of the total number of predictions that are correct. Non-calls are counted as incorrect predictions as defined in Materials and Methods. Accuracy was calculated for correct classifications of "negative," "positive-necrosis with inflammation," or "positive-necrosis," assigned to the samples and for randomized classifications in the same proportions as the correct classifications. Values presented are the mean accuracy values for 5 training/test sets with minimum and maximum accuracy values. These data clearly indicate that smaller subsets of the Combo gene lists have predictive power. Table 14 also compares prediction accuracy for correct classification of liver inflammation and for the same proportion of positive and negative toxicity calls randomly assigned to the samples (random classification). For each gene set or subset predictions were made using the same five training/test sets as for the other prediction analyses. Additionally, sets of genes were randomly chosen from the array which were not identified on the list of 183 predictive genes at 24 hour (Example 1, Table 5).

It is clear from these data that the predictions with accurate classification are much better than predictions with randomized classification. This means that the predictive

results are not simply due to chance and large data sets but are due to significant, meaningful predictive association between the gene expression of the predictive genes and the liver inflammation. The accuracy numbers for the gene sets selected from a list of all genes on the array minus the predictive genes are much lower than the Combo predictive lists and the random subsets of these predictive lists. This also verifies the predictive power of the identified predictive genes. The fact that the predictive numbers from these subsets are somewhat higher for accurate than random classification is likely due to some residual predictivity in these genes that is not very substantial.

Example 3

Compounds and treatments list used to construct the liver database are given in Table 1 of Example 1. This table also provides the evaluation of liver toxicity as observed as necrosis or necrosis with inflammation in samples collected 72 hours after treatment. The database is described in detail in Example 1. This Example analyzes expression data from samples collected 6 hours after treatment.

Array data, normalization and transformation procedures used were as described in Example 1.

Procedures and methods for obtaining gene lists correlating with histopathology scores were as described in Example 1.

The Predict Parameter Values tool in GeneSpring™ software used for liver inflammation class prediction is described in detail in Material and Methods of Example 1.

Data were each separated into 5 training and test sets by randomly distributing the compounds into the sets. This was accomplished by assigning random numbers to lists of compounds that are negative and positive for histopathology, sorting by random number, and then dividing the sorted lists into a specific number of training and test sets. The training and test set assignments are presented in the following

Table 15. Referring to Table 15, Low + defines low dose. High* defines high dose. Compounds* abbreviates for Compound, Dose, Abbreviation, etc, are defined in Table 1. **Negative are compounds that did not elicit histopathology (score=1). **Positive are compounds that did elicit histopathology (score of 2 or greater).

Liver inflammation classifications were entered for training and test sets as a parameter column. Toxicity, as defined by observation of liver necrosis or necrosis with inflammation at 72 hours after treatment, was entered as "negative", "positive-necrosis", or "positive-necrosis with inflammation" for each animal in a compound-dose group. Additionally, a parameter column for random histopathology classification was designated. This was done by randomly assigning the same number of "negative", "positive-necrosis", or "positive-necrosis with inflammation" calls to the individual animals.

The "Predict Parameter Value" tool of GeneSpring was used with each of the training and test sets to generate predictions of histopathology classifications of the test sets. The number of k nearest neighbors was optimized to give the highest predictive accuracy. This was done by first running predictions at different nearest neighbors for three of the training and test sets, and then evaluating the overall predictive performance for each number of nearest neighbors. A P-value ratio cutoff of 0.5 was used. The number of genes used to predict was varied with standard numbers of 50, 40, 30, 20, 10, 5, 2 and 1 genes used. For each number of genes the numbers of correct calls, incorrect calls and non-calls were recorded. Non-calls are cases where no prediction was made because the P-value ratio exceeded the specified P-value ratio cutoff. Calculations were made for overall percent correct calls (number of correct classifications/number of samples), percent correct calls of called samples (number of correct classifications/number of samples with calls) and percent of called samples (samples with calls/number of samples).

For each input list and optimal number of predictive genes (lowest number of genes giving a maximum overall percent of correct calls) additional information was

recorded that included the list of specific genes in the optimum predictive set.

Results: Expression array data were first examined for the existence of genes whose expression correlated with histopathology scores. Table 1 in Materials and Methods of Example 1 presents a list of the compounds and dose levels along with the liver histopathology classification and histopathology severity scores used for this analysis. For each distance measure the probability was adjusted in increments of 0.05 until at least 50 correlating genes were obtained. Lists of correlating genes were obtained using the distance measures described in Materials and Methods. Example sets of correlating genes are provided in Tables 16-17.

The correlating gene lists as well as the entire array gene list were provided as input lists to the GeneSpring Predict Parameter value tool (described in Materials and Methods) that employs a *k* nearest neighbor (*knn*) predictive model. These lists as well as the entire array gene list were used for each of the five training and test sets defined in Materials and Methods to generate predictions of histopathology classifications of the test sets. Input genes for the Predict Parameter Value feature included all 700 genes in the GenePix file (the Rat CT Array) as well as smaller lists of genes whose expressions correlated with histopathology by the correlation measures described previously. The number of genes used to predict are varied with standard numbers of 50, 40, 30, 20, 10, 5, 2 and 1 genes used. The specified number of predictive genes was varied to obtain an optimum number of predictive genes.

After this was done for all 5 training and test sets, all gene lists were then merged to create one aggregate list of predictive genes. Each gene on this aggregate list has predictive value for at least one of the training and test sets because it was observed to contribute to an optimum predictivity for a specific training/test set. The aggregate list was subdivided into smaller lists of genes based on the number of times a gene was predictive for an individual training or test set. For example, if 5 training and test sets were used, genes that were predictive in all 5 training and test sets were designated as Combo (combination) 5. Genes that were predictive in only 4 of 5

training and test sets were designated as Combo 4, etc.

A list of predictive genes organized by their occurrence in the separate training and test sets is presented in Table 18. Referring now to Table 18, the Combination (No. of Occurrences) category, refers to the number of training/test set gene list occurrences.

Example 4

Materials and Methods: The database used was as described in Example 1. This Example analyzes expression data from samples collected 6 hours after treatment

Array Data, Normalization and Transformation: Array data, normalization procedures and transformations used in these analyses are as described in Example 1. Table 28 lists 6 hour gene expression data for the predictive genes. These data can be used with a k nearest neighbor prediction model (as available in GeneSpring or other statistical software packages) to make predictions as described in this example

Class Prediction: The Predict Parameter Values tool in GeneSpring™ software was used for liver inflammation class prediction. A description of this tool and the statistical procedures used is provided in Example 1.

Training and Test Data Sets: The training and test data sets used are those described in Table 15 of Example 3.

Liver Toxicology Classification: Liver inflammation classifications used are described in Table 1 of Example 1. In this analysis randomized classifications (same number of "negative", "positive-necrosis", or "positive-necrosis with inflammation" classifications distributed randomly among the samples) were also used.

Prediction Output and Initial Data Processing: For each gene list prediction used for evaluation a table of data generated by the Predict Parameter Values tool in GeneSpring™ software was saved which provided for each sample in the test set the

actual call ("negative", "positive-necrosis with inflammation", or "positive-necrosis"), the predicted call ("negative", "positive-necrosis with inflammation", or "positive-necrosis") and the P-value cutoff ratio. This set of data was used to calculate predictive performance measures provided below.

Prediction Measures: Accuracy was calculated as described in Example 2.

Results: Prediction results for 6 hour expression data using genes identified as predictive are presented in Table 19 where comparison of predictive performance for correct and random classification is shown. Referring to Table 19, Gene List* is defined as Combo Gene Lists as in Table 18. ** Overall Accuracy = proportion of the total number of predictions that are correct. Non-calls are counted as incorrect predictions as defined in Materials and Methods. Accuracy was calculated for correct classifications of "negative", "positive-necrosis with inflammation", or "positive-necrosis" assigned to the samples and for randomized classifications in the same proportions as the correct classifications. Values presented are the mean accuracy values for 5 training/test sets with minimum and maximum accuracy values.

It is clear from these data that the predictions with accurate classification are much better than predictions with randomized classification. This means that the predictive results are not simply due to chance and large data sets but are due to significant, meaningful predictive association between the gene expression of the predictive genes and the liver inflammation.

Example 5

Materials and Methods: Database: Compounds and Liver inflammation: Compounds and treatments list used to construct the liver database are given in Table 1 of Example 1. This table also provides the evaluation of the liver inflammation observed in samples collected 72 hours after treatment. The database is described in detail in Example 1. This Example analyzes expression data from samples collected 72 hours after treatment.

Array data, normalization and transformation procedures used were as described in Example 1.

Procedures and methods for obtaining gene lists correlating with histopathology scores were as described in Example 1 with scores as in Example 1, Table 1.

The Predict Parameter Values tool in GeneSpring™ software used for liver inflammation class prediction is described in detail in Material and Methods of Example 1.

Training and Test Data Sets: Data were each separated into 5 training and test sets by randomly distributing the compounds into the sets. This was accomplished by assigning random numbers to lists of compounds that are negative and positive for histopathology, sorting by random number, and then dividing the sorted lists into a specific number of training and test sets. The training and test set assignments are presented in the Table 20.

Liver Toxicology Classification: Liver inflammation classifications were entered for training and test set as a parameter column. Toxicity, as defined by observation of liver necrosis or necrosis with inflammation at 72 hours after treatment, was entered as "negative", "positive-necrosis", or "positive-necrosis with inflammation" for each animal in a compound-dose group. Additionally, a parameter column for random histopathology classification was designated. This was done by randomly assigning the same number of "negative", "positive-necrosis", or "positive-necrosis with inflammation" calls to the individual animals.

Prediction Output and Initial Data Processing: The "Predict Parameter Value" tool of GeneSpring was used with each of the training and test sets to generate predictions of histopathology classifications of the test sets. The number of k nearest neighbors was optimized to give the highest predictive accuracy. This was done by first running predictions at different nearest neighbors for three of the training and test sets, and then evaluating the overall predictive performance for each number of nearest

neighbors. A P-value ratio cutoff of 0.5 was used. The number of genes used to predict was varied with standard numbers of 50, 40, 30, 20, 10, 5, 2 and 1 genes used. For each number of genes the numbers of correct calls, incorrect calls and non-calls were recorded. Non-calls are cases where no prediction was made because the P-value ratio exceeded the specified P-value ratio cutoff. Calculations were made for overall percent correct calls (number of correct classifications/number of samples), percent correct calls of called samples (number of correct classifications/number of samples with calls) and percent of called samples (samples with calls/number of samples).

For each input list and optimal number of predictive genes (lowest number of genes giving a maximum overall percent of correct calls) additional information was recorded that included the list of specific genes in the optimum predictive set.

Results: Expression array data were first examined for the existence of genes whose expression correlated with histopathology scores. Table 1 in Materials and Methods of Example 1 presents a list of the compounds and dose levels along with the liver histopathology classification and histopathology severity scores used for this analysis. For each distance measure the probability was adjusted in increments of 0.05 until at least 50 correlating genes were obtained. Lists of correlating genes were obtained using the distance measures described in Materials and Methods. Example sets of correlating genes are provided in Tables 21-22.

The correlating gene lists as well as the entire array gene list were provided as input lists to the GeneSpring Predict Parameter value tool (described in Materials and Methods) that employs a *k* nearest neighbor (*knn*) predictive model. These lists as well as the entire array gene list were used for each of the five training and test sets defined in Materials and Methods generate predictions of histopathology classifications of the test sets. Input genes for the Predict Parameter Value feature included all 700 genes in the GenePix file (the Rat CT Array) as well as smaller lists of genes whose expressions correlated with histopathology by the correlation measures described

previously. The number of genes used to predict are varied with standard numbers of 50, 40, 30, 20, 10, 5, 2 and 1 genes used. The specified number of predictive genes was varied to obtain an optimum number of predictive genes.

After this was done for all 5 training and test sets, all gene lists were then merged to create one aggregate list of predictive genes. Each gene on this aggregate list has predictive value for at least one of the training and test sets because it was observed to contribute to an optimum predictivity for a specific training/test set. The aggregate list was subdivided into smaller lists of genes based on the number of times a gene was predictive for an individual training or test set. For example, if 5 training and test sets were used, genes that were predictive in all 5 training and test sets were designated as Combo (combination) 5. Genes that were predictive in only 4 of 5 training and test sets were designated as Combo 4, etc.

A list of predictive genes organized by their occurrence in the separate training and test sets is presented in Table 23. Referring to Table 23, Combination (No. of occurrences) is defined as the number of training/test set gene list occurrences.

Example 6 Predictive Properties and Evaluation of Predictive Genes for Liver inflammation from 72 Hour Expression Data: Materials and Methods: Database: The database used was as described in Example 1.

Array Data, Normalization and Transformation: Array data, normalization procedures and transformations used in these analyses are as described in Example 1. Table 30 presents 72 hour gene expression data for the predictive genes. These data can be used with a k nearest neighbor prediction model (as available in GeneSpring or other statistical software packages) to make predictions as described in this example.

Class Prediction: The Predict Parameter Values tool in GeneSpring™ software was used for liver inflammation class prediction. A description of this tool and the statistical procedures used is provided in Example 1.

Training and Test Data Sets: The training and test data sets used are those described in the table of Example 5.

Liver Toxicology Classification: Liver inflammation classifications used are described in Table 1 of Example 1. In this analysis randomized classifications (same number of "negative", "positive-necrosis with inflammation", or "positive-necrosis" classifications distributed randomly among the samples) were also used.

Prediction Output and Initial Data Processing: For each gene list prediction used for evaluation a table of data generated by the Predict Parameter Values tool in GeneSpring™ software was saved which provided for each sample in the test set the actual call ("negative", "positive-necrosis with inflammation", or "positive-necrosis"), the predicted call ("negative", "positive-necrosis with inflammation", or "positive-necrosis") and the P-value cutoff ratio. This set of data was used to calculate predictive performance measures provided below. Accuracy was calculated as described in Example 2.

Results: Prediction results for 72 hour expression data using genes identified as predictive are presented in Table 24 in which comparison of predictive performance for correct and random classification is shown. Referring to Table 24, the "Gene List" is derived from Combo Gene Lists as in Table 23. The "Overall Accuracy" is defined as the proportion of the total number of predictions that are correct. Non-calls are counted as incorrect predictions as defined in Materials and Methods. Accuracy was calculated for correct classifications of "negative", "positive-necrosis with inflammation", or "positive-necrosis" assigned to the samples and for randomized classifications in the same proportions as the correct classifications. Values presented are the mean accuracy values for 5 training/test sets with minimum and maximum accuracy values.

It is clear from these data that the predictions with accurate classification are much better than predictions with randomized classification. This means that the predictive results are not simply due to chance and large data sets but are due to significant, meaningful predictive association between the gene expression of the predictive

genes and the liver inflammation.

Example 7 Alternate Models for Predicting Liver Inflammation

Predictive Modeling: The predictive task with the liver inflammation gene expression data is a three-class classification problem, where the three classes of possible responses are defined as "positive-necrosis with inflammation", "positive-necrosis", or "no histopathology". This is an uneven class problem in that the class of negative responses is roughly 80 percent of the data or more in the database tested. A discrimination function can be used to classify a training set. This function can be cross-validated with a testing set, often repeatedly to quantify the mean and variation of the classification error. There are numerous common discrimination functions, and a comparative study of the performance of these functions is useful in determining the best classifier. Additional measures can then be used to compare the performance of the classifiers. Since the classes are of significantly uneven sizes, use a geometric mean measure (*GMM*) can be used to compare models, namely, the square root of the product of the true positives and the true negatives.

Common discrimination methods are Fisher's linear discriminant, quadratic discriminant (mahalanobis distance), *k*-nearest neighbors (*knn*), logistic discriminant (MacLachlan, "Discriminant Analysis and Statistical Pattern Recognition", Wiley Series in Probability and Mathematical Statistics, 1992), classification trees (or more generally known as recursive partitioning) (Breiman et al., "Classification and Regression Trees", Chapman & Hall, 1984; Clark and Pregibon in "Tree-Based Models" (J.M. Chambers and T.J. Hastie, eds.) Chp. 9, Chapman & Hall Computer Science Series, 1993; Quinlan and Kaufman, "C4.5: Programs for Machine Learning", 1988), and neural network classifiers (Ripley, "Pattern Recognition and Neural Networks", Cambridge University Press, 1996). Most are formula-based such as linear and quadratic discriminant, whereas others are rule-based, such as recursive partitioning, or algorithmically based, such as *knn*. *knn* is also database dependent in that a database containing training set is needed to perform nearest neighbor search

and classification.

Classifier Models: A variety of common classification techniques are available. A simple hybrid classifier could be designed and tested, using the *knn* results, to transform the *knn* model into a database independent model. This model is termed a *centroid* model. The centroid model uses the correctly identified test data results from *knn* and locates a centroid of the subset of *k* samples that are of the same class for each correctly identified test sample. The centroid is assigned the correct class, and with new test data, a sample is assigned the class of its nearest centroid.

In addition to the *knn* and centroid models described above, tree, centroid, logistic, and neural network models could also be employed. The neural network is a simple, feed-forward network, allowing skip layers, and with an entropy fitting criterion.

It is understood that the examples and embodiments described herein are for illustrative purposes only and that various modifications or changes in light thereof will be suggested to persons skilled in the art and are to be included within the spirit and purview of this application and scope of the appended claims. All publications, patents and patent applications cited herein are hereby incorporated by reference in their entirety for all purposes to the same extent as if each individual publication, patent or patent application were specifically and individually indicated to be so incorporated by reference.

Table 1 Compounds, Dose Levels, Liver Pathology and Abbreviations in the database						
Compound	Dose Level	Abbrev.*	Liver Inflammation	Inflamm. Score**	Liver Necrosis	Necr. Score**
1-naphthylisothiocyanate	15mg/kg	ANIT 15	no	1	no	1
1-naphthylisothiocyanate	60mg/kg	ANIT 60	yes	2	yes	2
5-fluorouracil	13 mg/kg	5-FU 13	no	1	no	1
5-fluorouracil	50 mg/kg	5-FU 50	no	1	no	1
acetaminophen	250 mg/kg	APAP 250	no	1	no	1
acetaminophen	1000 mg/kg	APAP 1000	no	1	yes	2
aflatoxin	1 mg/kg	AFLB 1	yes	4	yes	8
amphotericin B	5 mg/kg	AMPB 5	no	1	no	1
amphotericin B	20 mg/kg	AMPB 20	no	1	no	1
azathioprine	50 mg/kg	AZA 50	no	1	no	1
azathioprine	200 mg/kg	AZA 200	no	1	no	1
benzene	0.25 ml/kg	BEN 250	no	1	no	1
benzene	1 ml/kg	BEN 1000	no	1	no	1
benzo[a]pyrene	30 mg/kg	BAP 30	no	1	no	1
bromobenzene	0.2 ml/kg	BRB 200	yes	2	yes	2
bromobenzene	0.8 ml/kg	BRB 800	yes	3	yes	4
busulfan	14 mg/kg	BUS 14	no	1	no	1
cadmium chloride	1 mg/kg	CAD 1	no	1	no	1
cadmium chloride	2 mg/kg	CAD 2	no	1	no	1
cadmium chloride	4 mg/kg	CAD 4	yes	2	yes	3
carbon tetrachloride	0.25 ml/kg	CCL4 250	no	1	yes	3
carbon tetrachloride	1 ml/kg	CCL4 1000	yes	3	yes	6
carmustine	16 mg/kg	CAR 16	no	1	no	1
chloroform	0.25 ml/kg	CHCL3 250	no	1	no	1
chloroform	0.5 ml/kg	CHCL3 500	no	1	no	1
chlorpromazine	8 mg/kg	CHLOR 8	no	1	no	1
chlorpromazine	30 mg/kg	CHLOR 30	no	1	no	1
cisplatin	2.5 mg/kg	CIS 2.5	no	1	no	1
cisplatin	10 mg/kg	CIS 10	no	1	no	1

clofibrate	75 mg/kg	CLO 75	no	1	no	1
clofibrate	250 mg/kg	CLO 250	no	1	no	1
clozapine	45 mg/kg	CLOZ 45	no	1	no	1
clozapine	180 mg/kg	CLOZ 180	no	1	no	1
carboxy methyl cellulose	30 mg/kg	CMC 30	no	1	no	1
cycloheximide	0.5 mg/kg	CHEX 0.5	no	1	no	1
cycloheximide	2 mg/kg	CHEX 2	no	1	no	1
cyclophosphamide	25 mg/kg	CPHOS 25	no	1	no	1
cyclophosphamide	100 mg/kg	CPHOS 100	no	1	no	1
cyclosporin A	20 mg/kg	CYCA 20	no	1	no	1
cyclosporin A	80 mg/kg	CYCA 80	no	1	no	1
dexamethasone	8 mg/kg	DEX 8	no	1	no	1
dexamethasone	30 mg/kg	DEX 30	no	1	no	1
diflunisal	25 mg/kg	DIF 25	no	1	no	1
diflunisal	100 mg/kg	DIF 100	no	1	no	1
dimethylnitrosamine	20 mg/kg	DMN 20	yes	4	yes	9
doxorubicin	12 mg/kg	DOX 12	no	1	no	1
erythromycin estolate	40 mg/kg	ERY 40	no	1	no	1
erythromycin estolate	160 mg/kg	ERY 160	no	1	no	1
estradiol	0.1 mg/kg	EST 0.1	no	1	no	1
estradiol	0.4 mg/kg	EST 0.4	no	1	no	1
ethanol	2.5 ml/kg	ETH 2500	no	1	no	1
gancyclovir	50 mg/kg	GAN 50	no	1	no	1
gancyclovir	200 mg/kg	GAN 200	no	1	no	1
gentamicin	38 mg/kg	GEN 38	no	1	no	1
gentamicin	150 mg/kg	GEN 150	no	1	no	1
hydroxyurea	250 mg/kg	HYD 250	no	1	no	1
hydroxyurea	1000 mg/kg	HYD 1000	no	1	no	1
isoniazid	50 mg/kg	ISON 50	no	1	no	1

isoniazid	200 mg/kg	ISON 200	no	1	no	1
ketoconazole	20 mg/kg	KETO 20	no	1	no	1
ketoconazole	80 mg/kg	KETO 80	no	1	no	1
lipopolysaccharide	2 mg/kg	LPS 2	no	1	no	1
lipopolysaccharide	8 mg/kg	LPS 8	yes	2	yes	6
methotrexate	1.3 mg/kg	MET 1.3	no	1	no	1
methotrexate	5 mg/kg	MET 5	no	1	no	1
naloxone	45 ml/kg	NAL 45	no	1	no	1
naloxone	180 mg/kg	NAL 180	no	1	no	1
phenobarbital	20 mg/kg	PBARB 20	no	1	no	1
phenobarbital	80 mg/kg	PBARB 80	no	1	no	1
phenylhydrazine	20 mg/kg	PHEN 20	no	1	no	1
phenylhydrazine	80 mg/kg	PHEN 80	no	1	no	1
polyethylene glycol	5 ml/kg	PEG 5000	no	1	no	1
puromycin	38 mg/kg	PUR 38	no	1	no	1
puromycin	150 mg/kg	PUR 150	no	1	no	1
quinidine	25 mg/kg	QUIN 25	no	1	no	1
quinidine	100 mg/kg	QUIN 100	no	1	no	1
streptozotocin	20 mg/kg	STRZ 20	no	1	no	1
streptozotocin	75 mg/kg	STRZ 75	no	1	no	1
tamoxifen	50 mg/kg	TAM 50	no	1	no	1
tamoxifen	200 mg/kg	TAM 200	no	1	no	1
tetracycline	50 mg/kg	TET 50	no	1	no	1
tetracycline	150 mg/kg	TET 150	no	1	yes	2
theophylline	25 mg/kg	THEO 25	no	1	no	1
theophylline	100 mg/kg	THEO 100	no	1	no	1

Table 2 Distribution of Compounds* in Individual Training and Test Sets
for 24h Liver Inflammation Data

Training and Test Set 1

Training Set 1 Negative**	Training Set 1 Positive**- Necrosis	Training Set 1 Positive**- Necrosis with Inflammation	Test Set 1 Negative**	Test Set 1 Positive**- Necrosis	Test Set 1 Positive**- Necrosis with Inflammation
BAP-Low ⁺	APAP-High ⁺	BRB-Low ⁺	ISON-Low ⁺	TET-High ⁺	BRB-High ⁺
KETO-Low	CCL4-Low	CCL4-High	TAM-Low		LPS-High
DOX-Low		ANIT-High	CYCA-Low		
STRZ-High		DMN-High	DIF-Low		
ERY-High			CHEX-High		
PEG-Low			CMC-Low		
PUR-High			HYD-Low		
CHLOR-High			ANIT-Low		
HYD-High			CHEX-Low		
GEN-High			APAP-Low		
BEN-High			CHCL3-High		
ETH-Low			DIF-High		
DOX-High			PHEN-High		
PBARB-High			GAN-Low		
BUS-Low			CYCA-High		
5-FU-Hi			TAM-High		
MET-Low			DEX-High		
EST-High			CIS-High		
PHEN-Low			PUR-Low		
THEO-Low			AMPB-Low		
QUIN-Low			CLO-High		
GEN-Low			EST-Low		
CIS-Low			CLOZ-Low		
CLO-Low			CAD-Low		
BUS-High			CHLOR-Low		
CAR-Low					
LPS-Low					
CPHOS-High					
THEO-High					
NAL-High					
DEX-Low					
NAL-Low					
AMPB-Hi					

5-FU-Low					
CAD-High					
ISON-High					
STRZ-Low					
CLOZ-High					
TET-Low					
KETO-High					
PBARB-Low					
CHCL3-Low					
BAP-High					
CPHOS-Low					
MET-High					
QUIN-High					
CAR-High					
ERY-Low					
GAN-High					
BEN-Low					

Training and Test Set 2

Training Set 2 Negative	Training Set 2 Positive- Necrosis	Training Set 2 Positive- Necrosis with Inflammation	Test Set 2 Negative	Test Set 2 Positive- Necrosis	Test Set 2 Positive- Necrosis with Inflammation
PHEN-Low	APAP-High	DMN-High	PUR-High	CCL4-Low	CCL4-High
ISON-High	TET-High	BRB-High	KETO-Low		ANIT-High
PHEN-High		BRB-Low	CLOZ-Low		
BEN-Low		LPS-High	ERY-High		
CYCA-Low			CAR-High		
KETO-High			CAD-High		
CLOZ-High			PBARB-High		
PBARB-Low			5-FU-Low		
CMC-Low			CAR-Low		
CHLOR-Low			DEX-Low		
NAL-Low			STRZ-Low		
EST-High			CLO-Low		
CHCL3-Low			ANIT-Low		
DOX-High			THEO-Low		
5-FU-Hi			BAP-High		
CPHOS-Low			CYCA-High		
DEX-High			MET-Low		
DIF-High			THEO-High		
ERY-Low			ISON-Low		

APAP-Low			MET-High		
CIS-Low			CHEX-Low		
CLO-High			LPS-Low		
BUS-High			GEN-Low		
BUS-Low			CHCL3-High		
DOX-Low			GEN-High		
DIF-Low					
CAD-Low					
STRZ-High					
HYD-Low					
BAP-Low					
CIS-High					
ETH-Low					
BEN-High					
QUIN-High					
PUR-Low					
HYD-High					
EST-Low					
AMPB-Low					
GAN-Low					
NAL-High					
CHEX-High					
CHLOR-High					
GAN-High					
CPHOS-High					
TAM-Low					
TET-Low					
TAM-High					
AMPB-Hi					
QUIN-Low					
PEG-Low					

Training and Test Set 3

Training Set 3 Negative	Training Set 3 Positive- Necrosis	Training Set 3 Positive- Necrosis with Inflammation	Test Set 3 Negative	Test Set 3 Positive- Necrosis	Test Set 3 Positive- Necrosis with Inflammation
ERY-High	TET-High	BRB-Low	PUR-High	APAP-High	BRB-High
EST-High	CCL4-Low	CCL4-High	CPHOS-Low		LPS-High
ISON-Low		ANIT-High	BEN-High		
ANIT-Low		LPS-High	HYD-High		

CLO-Low			CMC-Low		
CLOZ-Low			CLO-High		
DIF-Low			GAN-Low		
CAR-Low			DOX-High		
LPS-Low			CHEX-Low		
CIS-High			THEO-Low		
TAM-High			AMPB-Hi		
CYCA-High			DOX-Low		
MET-Low			CHEX-High		
NAL-Low			GEN-High		
CPHOS-High			DEX-Low		
CAR-High			BUS-High		
HYD-Low			PUR-Low		
APAP-Low			PBARB-Low		
GEN-Low			5-FU-Low		
AMPB-Low			QUIN-Low		
PHEN-Low			STRZ-Low		
BAP-High			ISON-High		
EST-Low			ETH-Low		
CHCL3-High			STRZ-High		
CAD-High			DEX-High		
PHEN-High					
TET-Low					
CLOZ-High					
BEN-Low					
CHLOR-High					
TAM-Low					
DIF-High					
BUS-Low					
KETO-High					
5-FU-Hi					
MET-High					
ERY-Low					
QUIN-High					
BAP-Low					
KETO-Low					
THEO-High					
PBARB-High					
CYCA-Low					
NAL-High					
CIS-Low					
PEG-Low					
CHLOR-Low					
GAN-High					
CHCL3-Low					
CAD-Low					

Training and Test Set 4

Training Set 4 Negative	Training Set 4 Positive- Necrosis	Training Set 4 Positive- Necrosis with Inflammation	Test Set 4 Negative	Test Set 4 Positive- Necrosis	Test Set 4 Positive- Necrosis with Inflammation
CHEX-Low	APAP-High	LPS-High	AMPB-Low	TET-High	BRB-High
5-FU-Low	TET-High	DMN-High	PHEN-Low		LPS-High
BEN-High		ANIT-High	DIF-Low		
QUIN-Low		BRB-Low	APAP-Low		
ERY-Low			CAD-High		
ETH-Low			GAN-Low		
CYCA-High			HYD-High		
KETO-High			TAM-High		
GEN-Low			DOX-Low		
BAP-High			GEN-High		
PEG-Low			PHEN-High		
BAP-Low			TET-Low		
CMC-Low			MET-High		
BUS-High			CHEX-High		
BUS-Low			DOX-High		
THEO-High			STRZ-High		
CYCA-Low			PBARB-High		
DEX-High			CLO-High		
QUIN-High			KETO-Low		
ERY-High			BEN-Low		
DEX-Low			5-FU-Hi		
EST-High			ISON-Low		
CAR-High			CAD-Low		
CHLOR-Low			CIS-Low		
MET-Low			PUR-High		
CHLOR-High					
CAR-Low					
AMPB-Hi					
CPHOS-High					
CLO-Low					
NAL-Low					
HYD-Low					
ANIT-Low					
ISON-High					
EST-Low					
CIS-High					

CHCL3-High					
NAL-High					
GAN-High					
CLOZ-High					
LPS-Low					
CLOZ-Low					
THEO-Low					
CPHOS-Low					
PUR-Low					
TAM-Low					
DIF-High					
PBARB-Low					
CHCL3-Low					
STRZ-Low					

Training and Test Set 5

Training Set 5 Negative	Training Set 5 Positive- Necrosis	Training Set 5 Positive- Necrosis with Inflammation	Test Set 5 Negative	Test Set 5 Positive- Necrosis	Test Set 5 Positive- Necrosis with Inflammation
KETO-High	APAP-High	CCL4-High	ISON-Low	TET-High	LPS-High
5-FU-Hi	CCL4-Low	BRB-High	MET-Low		BRB-Low
CIS-Low		ANIT-High	CHCL3-High		
NAL-Low		DMN-High	PHEN-High		
GAN-High			TAM-Low		
CPHOS-High			GEN-Low		
CHCL3-Low			CLO-Low		
CHEX-Low			MET-High		
PUR-Low			QUIN-Low		
AMPB-Hi			STRZ-High		
PEG-Low			KETO-Low		
TET-Low			DEX-High		
CYCA-Low			CAD-Low		
DOX-Low			BUS-Low		
ETH-Low			EST-Low		
HYD-Low			BEN-Low		
STRZ-Low			CAD-High		
EST-High			CAR-High		
CHLOR-High			CIS-High		
5-FU-Low			CHLOR-Low		

LPS-Low			APAP-Low		
THEO-Low			DIF-High		
NAL-High			CLOZ-Low		
DOX-High			PBARB-High		
PBARB-Low			CPHOS-Low		
DIF-Low					
ERY-High					
QUIN-High					
ERY-Low					
CMC-Low					
ISON-High					
CLOZ-High					
BEN-High					
CHEX-High					
PHEN-Low					
ANIT-Low					
CLO-High					
THEO-High					
PUR-High					
BAP-Low					
CAR-Low					
DEX-Low					
GEN-High					
BAP-High					
HYD-High					
BUS-High					
GAN-Low					
AMPB-Low					
CYCA-High					
TAM-High					

Table 3 List of Genes, Whose Expression at 24h Directly Correlates with Liver Inflammation at 72h, Ranked by Pearson Correlation Coefficient

Gene	Correlation Coefficient
Phase-1 RCT-207	0.598
Zinc finger protein	0.592
Gadd45	0.578
Gamma-actin, cytoplasmic	0.566
Heme oxygenase	0.558
Phase-1 RCT-50	0.549
Phase-1 RCT-144	0.547
Phase-1 RCT-179	0.546
Macrophage inflammatory protein-2 alpha	0.545
Superoxide dismutase Mn	0.533
Multidrug resistant protein-2	0.527
Phase-1 RCT-225	0.524
14-3-3 zeta	0.518
Cyclin G	0.507
Cofilin	0.502
Gadd153	0.501
Phase-1 RCT-242	0.492
c-jun	0.490
Cathepsin L, sequence 2	0.488
Phase-1 RCT-68	0.479
Phase-1 RCT-39	0.469
ID-1	0.464
Calpactin I heavy chain	0.463
PAR interacting protein	0.453
Endogenous retroviral sequence, 5' and 3' LTR	0.446
IkB-a	0.441
Phase-1 RCT-59	0.440
Phase-1 RCT-158	0.438
Phase-1 RCT-109	0.436
Multidrug resistant protein-1	0.431
Phase-1 RCT-205	0.430
Phase-1 RCT-49	0.429
Phase-1 RCT-145	0.425
Phase-1 RCT-213	0.425
Phase-1 RCT-72	0.419
60S ribosomal protein L6	0.415
Voltage-dependent anion channel 2 (Vdac2)	0.411
Phase-1 RCT-152	0.407
60S ribosomal protein L6 (alternate clone 1)	0.407
c-myc	0.406
Ribosomal protein L13A	0.406
IgE binding protein	0.406
Melanoma-associated antigen ME491	0.405

Beta-actin	0.403
c-H-ras	0.399
Phase-1 RCT-154	0.399
Phase-1 RCT-122	0.398
Integrin betal	0.397
Ornithine decarboxylase	0.395
Beta-tubulin, class I	0.395
Phase-1 RCT-241	0.395
Retinoid X receptor alpha	0.394
Bax (alpha)	0.394
Caspase 3	0.388
Insulin-like growth factor binding protein 1	0.385
Nucleoside diphosphate kinase beta isoform	0.385
Phase-1 RCT-60	0.384
Phase-1 RCT-196	0.382
Phase-1 RCT-192	0.380
Organic cation transporter 3	0.379
Thymosin beta-10	0.379
Osteoactivin	0.379
Phase-1 RCT-12	0.375
Phase-1 RCT-65	0.363
Waf1	0.360
Alpha-tubulin	0.360
Phase-1 RCT-215	0.359
Carbonyl reductase	0.359
p53	0.356
Phase-1 RCT-71	0.355
Phase-1 RCT-191	0.353
Beta-actin, sequence 2	0.352
Uncoupling protein 2	0.350

Table 4 List of Genes, Whose Expression at 24h Inversely Correlates with Liver Inflammation at 72h, Ranked by Spearman Correlation Coefficient

Gene	Correlation Coefficient
Matrin F/G	-0.425
Phase-1 RCT-36	-0.415
Phase-1 RCT-78	-0.403
Phase-1 RCT-33	-0.403
Phase-1 RCT-38	-0.402
Hepatic lipase	-0.399
Phase-1 RCT-214	-0.397
Carbonic anhydrase III	-0.394
Phase-1 RCT-288	-0.393
L-gulono-gamma-lactone oxidase	-0.393
Phase-1 RCT-92	-0.392
Phase-1 RCT-256	-0.391
Sodium/bile acid cotransporter	-0.382
Alpha 1 - Inhibitor III	-0.380
Phase-1 RCT-89	-0.380
Liver fatty acid binding protein	-0.379
Phase-1 RCT-296	-0.376
Organic anion transporter 3	-0.376
Phase-1 RCT-291	-0.375
Dynamin-1 (D100)	-0.375
Presenilin-1	-0.373
Aldehyde dehydrogenase, microsomal	-0.370
Phase-1 RCT-102	-0.365
Equilibrative nitrobenzylthiinosine-sensitive nucleoside transporter	-0.364
Phase-1 RCT-52	-0.363
Phase-1 RCT-168	-0.362
Sterol carrier protein 2	-0.362
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	-0.359
Phase-1 RCT-218	-0.359
Senescence marker protein-30	-0.357
Phase-1 RCT-40	-0.352
Paraoxonase 1	-0.352
Tryptophan hydroxylase	-0.351
Phase-1 RCT-123	-0.348
Phase-1 RCT-83	-0.347
Transthyretin	-0.347
Phase-1 RCT-219	-0.345
Phase-1 RCT-88	-0.341
Phase-1 RCT-289	-0.341
Apolipoprotein CIII	-0.341
Phase-1 RCT 165	-0.337
Phase-1 RCT-128	-0.336

Phase-1 RCT-264	-0.335
Phase-1 RCT-64	-0.335
Phase-1 RCT-233	-0.334
Phase-1 RCT-181	-0.333
Aquaporin-3 (AQP3)	-0.332
Phase-1 RCT-175	-0.331
Cytochrome P450 2C23	-0.330
Urinary protein 2 precursor	-0.327
3-hydroxyisobutyrate dehydrogenase	-0.327
Phase-1 RCT-117	-0.326
Glutathione peroxidase	-0.324
Phase-1 RCT-182	-0.324
Fatty acid synthase	-0.322
Phase-1 RCT-271	-0.321
Phase-1 RCT-10	-0.321
Phase-1 RCT-209	-0.320
Phase-1 RCT-67	-0.320
HMG-CoA synthase, mitochondrial	-0.316
Phase-1 RCT-137	-0.315
Stearyl-CoA desaturase, liver	-0.314
Apoptosis-regulating basic protein	-0.312
Phase-1 RCT-185	-0.312
Phase-1 RCT-98	-0.312
Phase-1 RCT-239	-0.312
Carbonic anhydrase III, sequence 2	-0.308
Phase-1 RCT-189	-0.308
Phase-1 RCT-270	-0.308
NADH-cytochrome b5 reductase	-0.308
Sulfotransferase K2	-0.301

Table 5 Predictive Genes for 24 Hour Expression Data

Gene Name	Combination Category*
Gamma-actin, cytoplasmic	5
60S ribosomal protein L6 (alternate clone 1)	3
60S ribosomal protein L6	3
Beta-tubulin, class I	3
c-jun	3
Gadd45	3
ID-1	3
IkB-a	3
Integrin beta1	3
Macrophage inflammatory protein-2 alpha	3
MAP kinase kinase	3
Multidrug resistant protein-2	3
Organic cation transporter 3	3
Phase-1 RCT-144	3
Phase-1 RCT-145	3
Phase-1 RCT-179	3
Phase-1 RCT-192	3
Phase-1 RCT-207	3
Phase-1 RCT-225	3
Phase-1 RCT-242	3
Phase-1 RCT-49	3
Phase-1 RCT-50	3
Phase-1 RCT-92	3
Zinc finger protein	3
14-3-3 zeta	2
Alpha-tubulin	2
Beta-actin	2
Cathepsin L, sequence 2	2
c-myc	2
Cytochrome P450 11A1	2
Gadd153	2
IgE binding protein	2
L-gulono-gamma-lactone oxidase	2
Matrin F/G	2
MHC class I antigen RT1.A1(f) alpha-chain	2
Nucleoside diphosphate kinase beta isoform	2
Ornithine decarboxylase	2
PAR interacting protein	2
Phase-1 RCT-181	2
Phase-1 RCT-185	2
Phase-1 RCT-205	2
Phase-1 RCT-213	2
Phase-1 RCT-233	2

Phase-1 RCT-258	2
Phase-1 RCT-288	2
Phase-1 RCT-33	2
Phase-1 RCT-36	2
Phase-1 RCT-39	2
Phase-1 RCT-60	2
Phase-1 RCT-64	2
Phase-1 RCT-65	2
Phase-1 RCT-78	2
Phase-1 RCT-98	1
Aldehyde dehydrogenase, microsomal	1
Alpha 1 - inhibitor III	1
Alpha-2-microglobulin	1
Apolipoprotein AII	1
Apolipoprotein CIII	1
Aquaporin-3 (AQP3)	1
Argininosuccinate lyase	1
Aspartate aminotransferase, mitochondrial	1
Urinary protein 2 precursor	1
ATP-stimulated glucocorticoid-receptor translocation promoter (Gyk)	1
Bax (alpha)	1
Beta-actin, sequence 2	1
Beta-alanine synthase	1
Carbonic anhydrase III	1
Carbonic anhydrase III, sequence 2	1
Carbonyl reductase	1
Carnitine palmitoyl-CoA transferase	1
Casein-alpha	1
Caspase 3	1
CDK102	1
c-H-ras	1
Cofilin	1
Cyclin D1	1
Cyclin G	1
Cytochrome P450 2C23	1
Dynamin-1 (D100)	1
Elongation factor-1 alpha	1
Endogenous retroviral sequence, 5' and 3' LTR	1
Endothelin-1	1
Equilibrative nitrobenzylthioinosine-sensitive nucleoside transporter	1
Fas antigen	1
Glutathione peroxidase	1
Heme oxygenase	1
Hepatic lipase	1
Hepatocyte growth factor receptor	1
HMG-CoA synthase, mitochondrial	1
Insulin-like growth factor binding protein 1	1

Interleukin-10	1
Liver fatty acid binding protein	1
Malic enzyme	1
Melanoma-associated antigen ME491	1
Multidrug resistant protein-1	1
MutL homologue (MLH1)	1
NADH-cytochrome b5 reductase	1
NADP-dependent Isocitrate dehydrogenase, cytosolic	1
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	1
Octamer binding protein 1	1
Organic anion transporter 3	1
p53	1
Paraoxonase 1	1
Phase-1 RCT-10	1
Phase-1 RCT-102	1
Phase-1 RCT-109	1
Phase-1 RCT-111	1
Phase-1 RCT-113	1
Phase-1 RCT-115	1
Phase-1 RCT-117	1
Phase-1 RCT-12	1
Phase-1 RCT-123	1
Phase-1 RCT-128	1
Apoptosis-regulating basic protein	1
Phase-1 RCT-137	1
Phase-1 RCT-140	1
Phase-1 RCT-141	1
Phase-1 RCT-152	1
Phase-1 RCT-154	1
Phase-1 RCT-158	1
Phase-1 RCT-168	1
Phase-1 RCT-174	1
Phase-1 RCT-175	1
Phase-1 RCT-180	1
Phase-1 RCT-182	1
Phase-1 RCT-189	1
Phase-1 RCT-191	1
Phase-1 RCT-196	1
Vacuole membrane protein 1	1
Phase-1 RCT-209	1
Phase-1 RCT-211	1
Phase-1 RCT-212	1
Phase-1 RCT-214	1
Phase-1 RCT-215	1
Phase-1 RCT-218	1
Phase-1 RCT-219	1
Phase-1 RCT-239	1

Phase-1 RCT-24	1
Phase-1 RCT-241	1
Phase-1 RCT-256	1
Phase-1 RCT-264	1
Phase-1 RCT-27	1
Phase-1 RCT-270	1
Phase-1 RCT-271	1
Phase-1 RCT-281	1
Phase-1 RCT-282	1
Phase-1 RCT-287	1
Phase-1 RCT-289	1
Phase-1 RCT-291	1
Voltage-dependent anion channel 2 (Vdac2)	1
Phase-1 RCT-296	1
Phase-1 RCT-30	1
Phase-1 RCT-37	1
Phase-1 RCT-38	1
Phase-1 RCT-40	1
Phase-1 RCT-48	1
Phase-1 RCT-52	1
Phase-1 RCT-67	1
Phase-1 RCT-68	1
Phase-1 RCT-72	1
Phase-1 RCT-76	1
Phase-1 RCT-77	1
Phase-1 RCT-79	1
Phase-1 RCT-8	1
Phase-1 RCT-88	1
Phase-1 RCT-89	1
Preproalbumin, sequence 2	1
Presenilin-1	1
Pyruvate kinase, muscle	1
Retinol-binding protein (RBP)	1
Ribosomal protein L13A	1
Ribosomal protein S9	1
Senescence marker protein-30	1
Sodium/bile acid cotransporter	1
Sodium/glucose cotransporter 1	1
Sorbitol dehydrogenase	1
Stearyl-CoA desaturase, liver	1
Sterol carrier protein 2	1
Sulfotransferase K2	1
Superoxide dismutase Mn	1
Thymosin beta-10	1
Transthyretin	1
Tryptophan hydroxylase	1

Table 6 Randomly Selected Gene Subsets from 24 H Combo All (183 Genes)*

Rand 5 (1)	Rand 5 (2)
Aquaporin-3 (AQP3)	Apolipoprotein CIII
Phase-1 RCT-115	Cofilin
Phase-1 RCT-209	Voltage-dependent anion channel 2 (Vdac2)
Pyruvate kinase, muscle	Phase-1 RCT-271
Transthyretin	Phase-1 RCT-196

Rand 10 (1)	Rand 10 (2)
Aspartate aminotransferase, mitochondrial	PAR interacting protein
Casein-alpha	Phase-1 RCT-38
Fas antigen	Integrin beta1
Gadd45	Phase-1 RCT-141
Gamma-actin, cytoplasmic	Phase-1 RCT-50
Integrin beta1	Liver fatty acid binding protein
Macrophage inflammatory protein-2 alpha	Beta-actin, sequence 2
Phase-1 RCT-145	60S ribosomal protein L6
Phase-1 RCT-207	Phase-1 RCT-211
Phase-1 RCT-78	Ribosomal protein L13A

Rand 15 (1)	Rand 15 (2)
60S ribosomal protein L6 (alternate clone 1)	Phase-1 RCT-52
Argininosuccinate lyase	HMG-CoA synthase, mitochondrial
Cytochrome P450 11A1	Retinol-binding protein (RBP)
Dynamin-1 (D100)	Sodium/bile acid cotransporter
Endogenous retroviral sequence, 5' and 3' LTR	Beta-alanine synthase
Integrin beta1	Ornithine decarboxylase
Paraoxonase 1	Insulin-like growth factor binding protein 1
Apoptosis-regulating basic protein	Phase-1 RCT-109
Phase-1 RCT-181	Octamer binding protein 1
Phase-1 RCT-264	Phase-1 RCT-145
Voltage-dependent anion channel 2 (Vdac2)	NADP-dependent isocitrate dehydrogenase, cytosolic
Phase-1 RCT-33	Phase-1 RCT-39
Phase-1 RCT-36	Matrin F/G
Phase-1 RCT-52	Phase-1 RCT-289
Thymosin beta-10	Organic anion transporter 3

Table 7 Randomly Selected Gene Subsets from 24 H Combo 5 3 2 Gene Set
(52 Genes)*

Rand 5 (1)	Rand 5 (2)
Phase-1 RCT-207	Phase-1 RCT-233
60S ribosomal protein L6 (alternate clone 1)	Integrin beta1
Cathepsin L	Phase-1 RCT-50
Phase-1 RCT-145	Phase-1 RCT-145
Phase-1 RCT-65	Phase-1 RCT-225

Rand 10 (1)	Rand 10 (2)
MHC class I antigen RT1.A1(f) alpha-chain	Phase-1 RCT-65
Beta-actin	Gadd153
Beta-tubulin, class I	Phase-1 RCT-36
Cathepsin L	Phase-1 RCT-60
c-jun	Phase-1 RCT-181
Matrin F/G	60S ribosomal protein L6
Phase-1 RCT-225	Phase-1 RCT-144
Phase-1 RCT-288	Phase-1 RCT-192
Phase-1 RCT-36	Zinc finger protein
Phase-1 RCT-50	Phase-1 RCT-205

Rand 15 (1)	Rand 15 (2)
Phase-1 RCT-242	60S ribosomal protein L6 (alternate clone 1)
IkB-a	14-3-3 zeta
MAP kinase kinase	60S ribosomal protein L6
Matrin F/G	Alpha-tubulin
Multidrug resistant protein-2	Beta-actin
Nucleoside diphosphate kinase beta isoform	Beta-tubulin, class I
Organic cation transporter 3	Cathepsin L
PAR interacting protein	c-jun
Phase-1 RCT-179	c-myc
Phase-1 RCT-288	Cytochrome P450 11A1
Phase-1 RCT-33	Gadd153
Phase-1 RCT-36	Gadd45
Phase-1 RCT-39	Gamma-actin, cytoplasmic
Phase-1 RCT-64	ID-1

Phase-1 RCT-92	IgE binding protein
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Table 8 Randomly Selected Gene Subsets from Array Genes Excluding Combo All Set*

Rand 5 (1)	Rand 5 (2)
Heme binding protein 23	Phase-1 RCT-147
alpha-1,2-fucosyltransferase	NADPH cytochrome P450 reductase
Metallothionein 1	Phase-1 RCT-236
Phase-1 RCT-83	CXCR4
Pim1 proto-oncogene	TGF-beta receptor type II

Rand 10 (1)	Rand 10 (2)
Protein kinase C beta1	Phase-1 RCT-176
Phase-1 RCT-14	p55CDC
Retinoid X receptor alpha	Connexin-32
Phase-1 RCT-221	Aryl sulfotransferase
Cytochrome P450 2C11	Diacylglycerol kinase zeta
Phase-1 RCT-173	Phase-1 RCT-59
Inter-alpha-inhibitor H4 heavy chain (Itih4)	Phase-1 RCT-293
Major acute phase protein alpha-1 ADP-ribosylation factor-like protein ARL184	Thioredoxin-2 (Trx2)
	Diazepam binding inhibitor
Cellular retinoic acid binding protein 2	Phase-1 RCT-47

Rand 15 (1)	Rand 15 (2)
Phase-1 RCT-42	Neurofibromin (NF1 tumor suppressor)
Tissue factor pathway inhibitor	Interleukin-1 beta
C-reactive protein	Glutathione S-transferase alpha subunit
Caspase 2	Protein O-mannosyltransferase 1 (Pomt1)
Cyclin D3	Phase-1 RCT-32
Dopamine transporter	Monoamine oxidase A
DNA topoisomerase I	25-hydroxyvitamin D3-1 alpha-hydroxylase
Multidrug resistant protein-3	Acyl-CoA dehydrogenase, medium chain
Defender against cell death-1	Macrophage inflammatory protein-1 alpha

CXCR4	Phase-1 RCT-133
Cytochrome c oxidase subunit II	Na/K ATPase alpha-1
Low density lipoprotein receptor	Vesicular monoamine transporter (VMAT)
Farnesol receptor	Phase-1 RCT-176
H-rev107	Alpha-fetoprotein
8-oxoguanine DNA glycosylase	Phase-1 RCT-177

Table 9 Liver Inflammation Individual Sample Prediction Values for 24 Hour Data
Predictive Genes (Combined List and Subsets)

Gene Set (#)	Prediction Measure*				
	Overall Accuracy**	FP _I **	FN _I **	GMM _I **	GMM _N **
Combo All (183)	0.860 (0.785 - 0.933)	0.092 (0.014 - 0.123)	0.167 (0.000 - 0.500)	0.862 (0.671 - 0.993)	0.891 (0.791 - 0.939)
Combo 5 (1)	0.845 (0.779 - 0.904)	0.120 (0.075 - 0.169)	0.100 (0.000 - 0.167)	0.890 (0.832 - 0.962)	0.845 (0.777 - 0.905)
Combo 3 (23)	0.849 (0.831 - 0.880)	0.098 (0.029 - 0.152)	0.167 (0.000 - 0.333)	0.861 (0.765 - 0.954)	0.823 (0.555 - 0.919)
Combo 2 (28)	0.793 (0.747 - 0.827)	0.171 (0.116 - 0.212)	0.300 (0.000 - 0.500)	0.753 (0.636 - 0.888)	0.857 (0.759 - 0.893)
Combo 1 (131)	0.804 (0.709 - 0.907)	0.156 (0.043 - 0.205)	0.200 (0.000 - 0.500)	0.817 (0.645 - 0.978)	0.860 (0.729 - 0.945)

Table 10 Liver Inflammation Compound-Dose Prediction Values for 24 Hour Data
Predictive Genes (Combined List and Subsets)

Gene Set	Number of Genes	Overall Accuracy**
Combo All	183	0.869 (0.741 - 0.962)
Combo 5	1	0.892 (0.846 - 0.958)
Combo 3	23	0.860 (0.833 - 0.885)
Combo 2	28	0.814 (0.769 - 0.846)
Combo 1	131	0.839 (0.704 - 0.885)

Table 11 Liver Inflammation Compound Prediction Values for 24 Hour Data
Predictive Genes (Combined List and Subsets)

Gene Set	Number of Genes	Overall Accuracy**
Combo All	183	0.864 (0.739 – 0.955)
Combo 5	1	0.886 (0.826 – 0.952)
Combo 3	23	0.855 (0.810 – 0.885)
Combo 2	28	0.796 (0.739 – 0.846)
Combo 1	131	0.839 (0.696 – 0.909)

Table 12 Individual Gene Predictions: Combo 3

Gene Name	Overall Correct Calls			
	Mean	s.d.	min	max
60S ribosomal protein L6 (alternate clone 1)	0.602	0.084	0.493	0.708
60S ribosomal protein L6	0.715	0.024	0.693	0.753
Beta-tubulin, class I	0.417	0.042	0.356	0.468
c-jun	0.641	0.044	0.573	0.685
Gadd45	0.727	0.063	0.667	0.805
ID-1	0.564	0.053	0.519	0.640
IkB-a	0.629	0.070	0.557	0.720
Integrin beta1	0.740	0.061	0.688	0.840
MAP kinase kinase	0.570	0.070	0.506	0.667
Macrophage inflammatory protein-2 alpha	0.561	0.058	0.479	0.640
Multidrug resistant protein-2	0.609	0.082	0.542	0.709
Organic cation transporter 3	0.711	0.070	0.611	0.805
Phase-1 RCT-144	0.762	0.052	0.722	0.844
Phase-1 RCT-145	0.634	0.128	0.452	0.779
Phase-1 RCT-179	0.710	0.038	0.658	0.764
Phase-1 RCT-192	0.675	0.051	0.625	0.760
Phase-1 RCT-207	0.734	0.022	0.696	0.753
Phase-1 RCT-225	0.579	0.023	0.556	0.608
Phase-1 RCT-242	0.621	0.106	0.468	0.747
Phase-1 RCT-49	0.665	0.057	0.587	0.727
Phase-1 RCT-50	0.609	0.032	0.575	0.653
Phase-1 RCT-92	0.604	0.335	0.231	0.883
Zinc finger protein	0.775	0.041	0.720	0.819
Average Individual Combo 3	0.646	0.070	0.564	0.729
Minimum Individual Combo 3	0.417	0.022	0.231	0.468
Maximum Individual Combo 3	0.775	0.335	0.722	0.883

Table 13 Individual Gene Predictions: Combo 2

Gene Name	Overall Correct Calls			
	Mean	s.d.	min	max
14-3-3 zeta	0.702	0.079	0.610	0.827
Alpha-tubulin	0.450	0.123	0.239	0.533
Beta-actin	0.639	0.046	0.571	0.681
Cathepsin L, sequence 2	0.509	0.221	0.127	0.644
c-myc	0.672	0.062	0.570	0.722
Cytochrome P450 11A1	0.677	0.180	0.364	0.810
Gadd153	0.502	0.096	0.354	0.589
IgE binding protein	0.721	0.012	0.709	0.740
L-gulono-gamma -lactone oxidase	0.680	0.277	0.329	0.886
Matrin F/G	0.695	0.132	0.493	0.797
MHC class I antigen RT1.A1(f) alpha-chain	0.475	0.139	0.360	0.707
Nucleoside diphosphate kinase beta isoform	0.573	0.062	0.506	0.653
Ornithine decarboxylase	0.666	0.068	0.608	0.764
PAR interacting protein	0.720	0.077	0.589	0.778
Phase-1 RCT-181	0.731	0.211	0.452	0.886
Phase-1 RCT-185	0.615	0.324	0.055	0.883
Phase-1 RCT-205	0.585	0.087	0.514	0.733
Phase-1 RCT-213	0.595	0.066	0.533	0.701
Phase-1 RCT-233	0.657	0.267	0.200	0.883
Phase-1 RCT-258	0.720	0.070	0.627	0.797
Phase-1 RCT-288	0.859	0.017	0.836	0.883
Phase-1 RCT-33	0.679	0.280	0.347	0.886
Phase-1 RCT-36	0.646	0.323	0.250	0.886
Phase-1 RCT-39	0.650	0.079	0.584	0.773
Phase-1 RCT-60	0.569	0.080	0.452	0.653
Phase-1 RCT-64	0.814	0.050	0.767	0.875
Phase-1 RCT-65	0.557	0.055	0.486	0.623
Phase-1 RCT-78	0.805	0.167	0.506	0.886
Average Individual Combo 3	0.649	0.130	0.466	0.767
Minimum Individual Combo 3	0.450	0.012	0.055	0.533
Maximum Individual Combo 3	0.859	0.324	0.836	0.886

Table 14 Comparison of Predictivity for True Liver Inflammation Classification and Random Classification Using Combo Gene Sets and Random Subsets and 24h data

		Overall Accuracy**							
Gene List*	Gene Subset*	Correct Classification				Random Classification			
		Mean	Min	-	Max	Mean	Min.	-	Max.
Combo All	All Genes	0.860	(0.785	-	0.933)	0.149	(0.055	-	0.278)
	5 genes (1)	0.648	(0.315	-	0.886)	0.479	(0.178	-	0.785)
	5 genes (2)	0.808	(0.764	-	0.836)	0.177	(0.093	-	0.278)
	10 genes (1)	0.839	(0.759	-	0.893)	0.173	(0.152	-	0.205)
	10 genes (2)	0.843	(0.785	-	0.909)	0.199	(0.107	-	0.266)
	15 genes (1)	0.735	(0.658	-	0.795)	0.232	(0.151	-	0.292)
	15 genes (2)	0.799	(0.696	-	0.867)	0.181	(0.137	-	0.293)
Combo 5 3 2	All Genes	0.852	(0.797	-	0.907)	0.223	(0.139	-	0.354)
	5 genes (1)	0.766	(0.722	-	0.800)	0.239	(0.167	-	0.299)
	5 genes (2)	0.789	(0.764	-	0.818)	0.177	(0.133	-	0.278)
	10 genes (1)	0.778	(0.722	-	0.818)	0.185	(0.111	-	0.234)
	10 genes (2)	0.813	(0.764	-	0.844)	0.256	(0.139	-	0.351)
	15 genes (1)	0.763	(0.722	-	0.840)	0.205	(0.111	-	0.299)
	15 genes (2)	0.867	(0.823	-	0.903)	0.193	(0.123	-	0.253)
All-Pred	5 genes (1)	0.559	(0.467	-	0.625)	0.244	(0.187	-	0.342)
	5 genes (2)	0.612	(0.519	-	0.747)	0.205	(0.139	-	0.280)
	10 genes (1)	0.691	(0.639	-	0.787)	0.219	(0.152	-	0.307)
	10 genes (2)	0.528	(0.431	-	0.693)	0.197	(0.093	-	0.293)
	15 genes (1)	0.509	(0.456	-	0.587)	0.194	(0.080	-	0.301)
	15 genes (2)	0.623	(0.544	-	0.733)	0.220	(0.167	-	0.247)

Table 15 Distribution of Compounds* in Individual Training and Test Sets
for 6 Hour Liver Inflammation Data

Training and Test Set 1

Training Set 1 Negative**	Training Set 1 Positive**- Necrosis	Training Set 1 Positive**- Necrosis with Inflammation	Test Set 1 Negative**	Test Set 1 Positive**- Necrosis	Test Set 1 Positive**- Necrosis with Inflammation
CHLOR-Low ⁺	TET-High ⁺	DMN-High ⁺	HYD-High ⁺	APAP-High ⁺	BRB-Low ⁺
TAM-High	CCL4-Low	ANIT-High	CYCA-Low		CAD-4
BEN-Low		CCL4-High	GEN-Low		BRB-High
CHEX-High		LPS-High	ERY-Low		
5-FU-Low		AFLB	CMC-Low		
NAL-High			PHEN-High		
TAM-Low			DOX-Low		
ERY-High			ANIT-Low		
PEG-Low			QUIN-Low		
HYD-Low			5-FU-Hi		
CPHOS-Low			DOX-High		
CAD-Low			BAP-High		
CLO-Low			CIS-Low		
STRZ-Low			KETO-High		
GEN-High			CIS-High		
GAN-Low			CAR-Low		
CPHOS-High			BEN-High		
QUIN-High			CLOZ-Low		
NAL-Low			CLOZ-High		
EST-Low			PBARB-High		
STRZ-High			DIF-Low		
THEO-High			PHEN-Low		
EST-High			KETO-Low		
ETH-Low			AMPB-Low		
PBARB-Low			GAN-High		
CAR-High					
TET-Low					
CHCL3-Low					
AMPB-Hi					
CHCL3-High					
ISON-Low					
THEO-Low					
MET-High					

PUR-High					
CLO-High					
DEX-High					
APAP-Low					
BUS-Low					
PUR-Low					
DIF-High					
CAD-High					
BAP-Low					
LPS-Low					
ISON-High					
CHLOR-High					
MET-Low					
CHEX-Low					
DEX-Low					
BUS-High					
CYCA-High					

Training and Test Set 2

Training Set 2 Negative	Training Set 2 Positive- Necrosis	Training Set 2 Positive- Necrosis with Inflammation	Test Set 2 Negative	Test Set 2 Positive- Necrosis	Test Set 2 Positive- Necrosis with Inflammation
QUIN-High	CCL4-Low	LPS-High	QUIN-Low	TET-High	DMN-High
DOX-Low	APAP-High	AFLB	CMC-Low		BRB-Low
CHEX-Low		BRB-High	CLO-High		CAD-4
THEO-Low		ANIT-High	STRZ-Low		
BUS-Low		CCL4-High	BUS-High		
STRZ-High			ISON-High		
CPHOS-Low			CYCA-High		
GAN-High			THEO-High		
BEN-Low			CLO-Low		
EST-High			AMPB-Hi		
ANIT-Low			CYCA-Low		
HYD-High			CHCL3-High		
DIF-Low			CLOZ-Low		
ISON-Low			GEN-Low		
GAN-Low			AMPB-Low		
KETO-High			TET-Low		
PBARB-Low			CAD-Low		

PHEN-High			NAL-Low		
BEN-High			CHLOR-Low		
CIS-Low			ERY-High		
CHLOR-High			GEN-High		
ETH-Low			PUR-High		
CLOZ-High			DIF-High		
PUR-Low			HYD-Low		
CHCL3-Low			DOX-High		
PHEN-Low					
ERY-Low					
5-FU-Hi					
CAR-High					
MET-High					
CIS-High					
5-FU-Low					
CHEX-High					
TAM-High					
EST-Low					
APAP-Low					
NAL-High					
LPS-Low					
CPHOS-High					
CAD-High					
MET-Low					
BAP-High					
TAM-Low					
KETO-Low					
BAP-Low					
DEX-Low					
PBARB-High					
DEX-High					
CAR-Low					
PEG-Low					

Training and Test Set 3

Training Set 3 Negative	Training Set 3 Positive- Necrosis	Training Set 3 Positive- Necrosis with Inflammation	Test Set 3 Negative	Test Set 3 Positive- Necrosis	Test Set 3 Positive- Necrosis with Inflammation
CPHOS-Low	TET-High	ANIT-High	ISON-Low	CCL4-Low	CAD-4
CHEX-High	APAP-High	BRB-Low	QUIN-High		BRB-High

THEO-Low		AFLB	NAL-High		LPS-High
AMPB-Low		DMN-High	CHEX-Low		
5-FU-Low		CCL4-High	ETH-Low		
CHLOR-High			TAM-High		
APAP-Low			GAN-Low		
THEO-High			BUS-High		
STRZ-High			STRZ-Low		
CPHOS-High			NAL-Low		
DEX-High			PHEN-Low		
ISON-High			BAP-High		
HYD-High			CLO-High		
BEN-High			PHEN-High		
CAR-Low			ERY-Low		
5-FU-Hi			PEG-Low		
CLO-Low			LPS-Low		
EST-Low			CLOZ-High		
CAR-High			GAN-High		
CIS-High			GEN-Low		
CHCL3-High			DIF-Low		
PUR-High			PBARB-Low		
BEN-Low			KETO-Low		
CLOZ-Low			PBARB-High		
BAP-Low			PUR-Low		
CHCL3-Low					
TAM-Low					
DIF-High					
DEX-Low					
ANIT-Low					
CYCA-High					
DOX-High					
TET-Low					
GEN-High					
BUS-Low					
CMC-Low					
AMPB-Hi					
MET-High					
HYD-Low					
CIS-Low					
QUIN-Low					
CYCA-Low					
CAD-Low					
MET-Low					
DOX-Low					
KETO-High					
CHLOR-Low					
CAD-High					
ERY-High					

EST-High					
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Training and Test Set 4

Training Set 4 Negative	Training Set 4 Positive- Necrosis	Training Set 4 Positive- Necrosis with Inflammation	Test Set 4 Negative	Test Set 4 Positive- Necrosis	Test Set 4 Positive- Necrosis with Inflammation
ERY-Low	TET-High	CAD-4	TET-Low	APAP-High	DMN-High
BAP-Low	CCL4-Low	AFLB	GEN-High		BRB-High
MET-High		BRB-Low	KETO-Low		ANIT-High
ISON-High		LPS-High	DEX-High		
DIF-Low		CCL4-High	CAR-High		
5-FU-Hi			CLO-Low		
HYD-High			CAD-Low		
PUR-High			CHLOR-High		
THEO-Low			DOX-Low		
DEX-Low			5-FU-Low		
QUIN-Low			CHCL3-High		
CHCL3-Low			AMPB-Hi		
THEO-High			DIF-High		
PEG-Low			CPHOS-Low		
EST-Low			STRZ-Low		
CHEX-High			QUIN-High		
AMPB-Low			CHEX-Low		
CYCA-High			CLO-High		
LPS-Low			BUS-Low		
CLOZ-Low			GAN-High		
TAM-Low			ISON-Low		
GEN-Low			TAM-High		
BAP-High			BUS-High		
CIS-Low			DOX-High		
BEN-Low			CMC-Low		
KETO-High					
CPHOS-High					
STRZ-High					
CIS-High					
HYD-Low					
NAL-Low					
MET-Low					
PHEN-High					
ETH-Low					

CHLOR-Low					
CLOZ-High					
PBARB-Low					
BEN-High					
APAP-Low					
ERY-High					
EST-High					
PUR-Low					
CYCA-Low					
CAR-Low					
ANIT-Low					
GAN-Low					
PBARB-High					
NAL-High					
PHEN-Low					
CAD-High					

Training and Test Set 5

Training Set 5 Negative	Training Set 5 Positive- Necrosis	Training Set 5 Positive- Necrosis with Inflammation	Test Set 5 Negative	Test Set 5 Positive- Necrosis	Test Set 5 Positive- Necrosis with Inflammation
CAR-Low	APAP-High	BRB-High	BUS-High	TET-High	CCL4-High
TET-Low	CCL4-Low	LPS-High	ISON-High		BRB-Low
QUIN-Low		DMN-High	CMC-Low		AFLB
CPHOS-Low		ANIT-High	AMPB-Low		
MET-High		CAD-4	HYD-Low		
5-FU-Hi			GEN-High		
GAN-Low			BAP-High		
DOX-High			PBARB-High		
BAP-Low			CIS-High		
BEN-Low			PHEN-High		
CHEX-High			ERY-High		
NAL-High			KETO-High		
PBARB-Low			THEO-High		
STRZ-High			BUS-Low		
PEG-Low			CHCL3-Low		
ERY-Low			EST-High		
DIF-Low			APAP-Low		

AMPB-HI			CHLOR-High		
PUR-High			CAD-High		
GEN-Low			5-FU-Low		
ETH-Low			CYCA-High		
GAN-High			ISON-Low		
CYCA-Low			PHEN-Low		
CLOZ-High			MET-Low		
HYD-High			PUR-Low		
NAL-Low					
CHLOR-Low					
CLO-Low					
CAR-High					
TAM-Low					
STRZ-Low					
CPHOS-High					
CLO-High					
CHEX-Low					
THEO-Low					
ANIT-Low					
DOX-Low					
CIS-Low					
DEX-High					
TAM-High					
EST-Low					
DIF-High					
DEX-Low					
CLOZ-Low					
CHCL3-High					
KETO-Low					
CAD-Low					
QUIN-High					
LPS-Low					
BEN-High					

Table 16 List of Genes, Whose Expression at 6h Directly Correlates
with Liver Inflammation at 72h, Ranked by Pearson Correlation Coefficient

Gene	Correlation Coefficient
Phase-1 RCT-207	0.383
Phase-1 RCT-59	0.356
c-jun	0.346
Phase-1 RCT-50	0.327
Cyclin G	0.321
Phase-1 RCT-144	0.320
Gadd153	0.317
ID-1	0.313
Heme oxygenase	0.310
Zinc finger protein	0.300
NIPK	0.299
Phase-1 RCT-179	0.295
Phase-1 RCT-197	0.293
Gadd45	0.293
Activating transcription factor 3	0.275
c-myc	0.274
Melanoma-associated antigen ME491	0.270
Beta-tubulin, class I	0.265
Phase-1 RCT-49	0.260
Waf1	0.259
14-3-3 zeta	0.253
Phase-1 RCT-225	0.252
Cathepsin L, sequence 2	0.248
Phase-1 RCT-212	0.247
Phase-1 RCT-242	0.243
Ferritin H-chain	0.235
Phase-1 RCT-62	0.232
Phase-1 RCT-75	0.232
Argininosuccinate lyase	0.230
Phase-1 RCT-156	0.230
Caspase 6	0.229
Insulin-like growth factor binding protein 1	0.227
Phase-1 RCT-228	0.227
Phase-1 RCT-109	0.225
Integrin beta1	0.224
Colony-stimulating factor-1	0.223
Phase-1 RCT-111	0.221
Phase-1 RCT-191	0.220
Phase-1 RCT-72	0.220
Phase-1 RCT-103	0.220

Phase-1 RCT-12	0.218
Matrix metalloproteinase-1	0.217
Phase-1 RCT-127	0.216
NGF-inducible anti-proliferative putative secreted protein (PC3)	0.216
Phase-1 RCT-171	0.215
Macrophage inflammatory protein-1 alpha	0.212
Phase-1 RCT-259	0.211
MHC class I antigen RT1.A1(f) alpha-chain	0.210
Phase-1 RCT-95	0.208
Phase-1 RCT-235	0.204
Phase-1 RCT-55	0.203
Phase-1 RCT-221	0.202
Ubiquitin conjugating enzyme (RAD 6 homologue)	0.202
Macrophage inflammatory protein-2 alpha	0.201

Table 17 List of Genes, Whose Expression at 6 h Inversely Correlates
with Liver Inflammation at 72h, Ranked by Spearman Correlation Coefficient

Gene	Correlation Coefficient
Diacylglycerol kinase zeta	-0.150
Carbamyl phosphate synthetase I	-0.151
Phase-1 RCT-28	-0.152
Cyclin D3	-0.154
3-methyladenine DNA glycosylase	-0.154
Phase-1 RCT-63	-0.155
8-oxoguanine DNA glycosylase	-0.156
Cholesterol 7-alpha-hydroxylase (P450 VII)	-0.160
Phase-1 RCT-141	-0.160
Peroxisome assembly factor 1	-0.161
Phase-1 RCT-184	-0.161
Phase-1 RCT-260	-0.162
Glutamine synthetase	-0.162
Vesicular monoamine transporter (VMAT)	-0.162
Phase-1 RCT-112	-0.167
Inositol polyphosphate multikinase (Ipmk)	-0.168
Phase-1 RCT-280	-0.171
Matrin F/G	-0.172
Selenoprotein P	-0.172
Complement component C3	-0.172
Phase-1 RCT-32	-0.172
Phase-1 RCT-13	-0.174
Phase-1 RCT-114	-0.175
Organic anion transporter K1	-0.176
Phase-1 RCT-82	-0.176
Phase-1 RCT-168	-0.177
Carbonic anhydrase II	-0.179
Cytochrome P450 2E1	-0.181
Stem cell factor	-0.183
Phase-1 RCT-83	-0.184
C4b-binding protein	-0.184
Phase-1 RCT-140	-0.185
JNK1 stress activated protein kinase	-0.187
Peroxisomal multifunctional enzyme type II	-0.189
Cyclin dependent kinase 4	-0.189
Organic anion transporter 3	-0.190
Alcohol dehydrogenase 1	-0.190
Phase-1 RCT-139	-0.196
Emerin	-0.199
Phase-1 RCT-173	-0.205
Nucleosome assembly protein	-0.207

Phase-1 RCT-73	-0.209
Phase-1 RCT-214	-0.214
Phase-1 RCT-119	-0.215
Tryptophan hydroxylase	-0.216
PTEN/MMAC1	-0.217
Thymidylate synthase	-0.220
DNA topoisomerase I	-0.223
Phase-1 RCT-40	-0.228
Sarcoplasmic reticulum calcium ATPase	-0.228
Protein tyrosine phosphatase alpha	-0.238
Carbonic anhydrase III	-0.243
3-beta-hydroxysteroid dehydrogenase (HSD3B1)	-0.256
Phase-1 RCT-161	-0.261
Glucokinase	-0.265
Senescence marker protein-30	-0.275
Acetyl-CoA carboxylase	-0.294

Table 18 List of genes whose expression at 6 hours is predictive of liver inflammation at 72 hours

Gene	Combination* (No. of Occurrences)
Gadd153	5
Argininosuccinate lyase	4
Beta-tubulin, class I	4
Cathepsin L, sequence 2	4
c-myc	4
Heme oxygenase	4
Insulin-like growth factor binding protein 1	4
Integrin beta1	4
Interferon related developmental regulator IFRD1 (PC4)	4
Monoamine oxidase B	4
NIPK	4
Phase-1 RCT-127	4
Phase-1 RCT-197	4
Phase-1 RCT-207	4
Phase-1 RCT-242	4
Phase-1 RCT-50	4
Phase-1 RCT-72	4
Phase-1 RCT-75	4
Senescence marker protein-30	4
8-oxoguanine DNA glycosylase	3
Axin	3
C4b-binding protein	3
Carbamyl phosphate synthetase I	3
Caspase 6	3
c-jun	3
Cyclin G	3
Gadd45	3
ID-1	3
JNK1 stress activated protein kinase	3
Macrophage inflammatory protein-1 alpha	3
NGF-inducible anti-proliferative putative secreted protein (PC3)	3
Peroxisome proliferator activated receptor gamma	3
Phase-1 RCT-161	3
Phase-1 RCT-168	3
Phase-1 RCT-184	3
Phase-1 RCT-214	3
Phase-1 RCT-225	3
Phase-1 RCT-287	3
Phase-1 RCT-40	3
Phase-1 RCT-49	3

Phase-1 RCT-89	3
Selenoprotein P	3
Stem cell factor	3
Zinc finger protein	3
Phase-1 RCT-171	2
14-3-3 zeta	2
3-methyladenine DNA glycosylase	2
Acetyl-CoA carboxylase	2
Alcohol dehydrogenase 1	2
Alpha-fetoprotein	2
AT-3	2
Carbonic anhydrase III	2
Cholesterol 7-alpha-hydroxylase (P450 VII)	2
Ciliary neurotrophic factor	2
Cofilin	2
Colony-stimulating factor-1	2
Cytochrome P450 2E1	2
DNA binding protein inhibitor ID2	2
DNA polymerase beta	2
DNA topoisomerase I	2
Elongation factor-1 alpha	2
Emerin	2
Equilibrative nitrobenzylthioinosine-sensitive nucleoside transporter	2
Ferritin H-chain	2
Fetuin beta (Fetub)	2
Gamma-actin, cytoplasmic	2
Glucokinase	2
Glucose-regulated protein 78	2
Glutathione S-transferase theta-1	2
HMG CoA reductase	2
Insulin-like growth factor I	2
Iron-responsive element-binding protein	2
Matrin F/G	2
Melanoma-associated antigen ME491	2
Multidrug resistant protein-2	2
NADP-dependent isocitrate dehydrogenase, cytosolic	2
Nucleosome assembly protein	2
Peroxisomal multifunctional enzyme type II	2
Peroxisome assembly factor 1	2
Phase-1 RCT-252	2
Phase-1 RCT-109	2
Protein O-mannosyltransferase 1 (Pomt1)	2
Phase-1 RCT-123	2
Phase-1 RCT-141	2
Phase-1 RCT-144	2
Phase-1 RCT-166	2

Phase-1 RCT-169	2
Phase-1 RCT-173	2
Phase-1 RCT-179	2
Phase-1 RCT-18	2
Phase-1 RCT-191	2
Phase-1 RCT-221	2
Phase-1 RCT-251	2
Phase-1 RCT-270	2
Phase-1 RCT-28	2
Phase-1 RCT-289	2
Phase-1 RCT-297	2
Phase-1 RCT-32	2
Phase-1 RCT-55	2
Phase-1 RCT-59	2
Phase-1 RCT-62	2
Phase-1 RCT-63	2
Phase-1 RCT-65	2
Phase-1 RCT-66	2
Phase-1 RCT-71	2
Phase-1 RCT-73	2
Phase-1 RCT-82	2
Phase-1 RCT-9	2
Phase-1 RCT-95	2
Proliferating cell nuclear antigen gene	2
Pyruvate kinase, muscle	2
Ribosomal protein L13A	2
Thioredoxin-1 (Trx1)	2
Thymidylate synthase	2
Cyclin-dependent kinase 4 inhibitor P27kip1 (alternate clone)	1
Cytochrome P450 2C39 (alternate clone 2)	1
3-beta-hydroxysteroid dehydrogenase (HSD3B1)	1
3-hydroxyisobutyrate dehydrogenase	1
Activating transcription factor 3	1
Activin receptor type II	1
Acyl-CoA dehydrogenase, medium chain	1
Adenine nucleotide translocator 1	1
Alpha-1 acid glycoprotein	1
Alpha-1 microglobulin/bikunin precursor (Ambp)	1
Alpha-2-macroglobulin, sequence 2	1
Alpha-2-microglobulin	1
Apolipoprotein E	1
Aryl sulfotransferase	1
Urinary protein 2 precursor	1
Carbonic anhydrase II	1
Carbonic anhydrase III, sequence 2	1
Carbonyl reductase	1
Ceruloplasmin	1

Complement component C3	1
Complement factor I (CFI)	1
Cyclin D3	1
Cystatin C	1
Cytochrome P450 1A2	1
Cytochrome P450 2C11	1
Diacylglycerol kinase zeta	1
Disulfide isomerase related protein (ERp72)	1
Dynamin-1 (D100)	1
Endogenous retroviral sequence, 5' and 3' LTR	1
Epoxide hydrolase	1
Focal adhesion kinase (pp125FAK)	1
Gap junction membrane channel protein beta 1 (Gjb1)	1
Glucose transporter 2	1
Glutamine synthetase	1
Glutathione S-transferase Yb2 subunit	1
Glutathione S-transferase P1	1
Glutathione S-transferase Ya	1
Glycine methyltransferase	1
Hepatic lipase	1
Hypoxia-inducible factor 1 alpha	1
IkB-a	1
Insulin-like growth factor binding protein 5	1
Integrin beta-4	1
Inter-alpha-inhibitor H4 heavy chain (Itih4)	1
Liver fatty acid binding protein	1
Lysyl oxidase	1
Macrophage inflammatory protein-2 alpha	1
Malate dehydrogenase, cytosolic	1
Matrix metalloproteinase-1	1
Methylacyl-CoA racemase alpha	1
MHC class I antigen RT1.A1(f) alpha-chain	1
MHC class II antigen RT1.B-1 beta-chain	1
Multidrug resistant protein-1	1
NADPH cytochrome P450 oxidoreductase	1
N-cadherin	1
Organic anion transporter 3	1
Organic anion transporting polypeptide 1	1
Organic cation transporter 3	1
Osteopontin	1
Phase-1 RCT-10	1
Phase-1 RCT-103	1
Phase-1 RCT-108	1
Phase-1 RCT-111	1
Phase-1 RCT-112	1
Phase-1 RCT-113	1
Phase-1 RCT-114	1

Phase-1 RCT-117	1
Phase-1 RCT-119	1
Phase-1 RCT-12	1
Phase-1 RCT-13	1
Phase-1 RCT-136	1
Phase-1 RCT-137	1
Phase-1 RCT-138	1
Phase-1 RCT-140	1
Phase-1 RCT-142	1
Phase-1 RCT-143	1
Phase-1 RCT-145	1
Phase-1 RCT-148	1
Phase-1 RCT-15	1
Phase-1 RCT-151	1
Phase-1 RCT-156	1
Phase-1 RCT-158	1
Phase-1 RCT-164	1
Phase-1 RCT-180	1
Phase-1 RCT-189	1
Phase-1 RCT-192	1
Phase-1 RCT-195	1
Phase-1 RCT-202	1
Phase-1 RCT-204	1
Calgranulin B	1
Phase-1 RCT-212	1
Phase-1 RCT-22	1
Phase-1 RCT-235	1
Phase-1 RCT-240	1
Phase-1 RCT-241	1
Phase-1 RCT-25	1
Phase-1 RCT-258	1
Phase-1 RCT-259	1
Phase-1 RCT-260	1
Phase-1 RCT-261	1
Phase-1 RCT-264	1
Phase-1 RCT-278	1
Phase-1 RCT-280	1
Phase-1 RCT-281	1
Phase-1 RCT-288	1
Phase-1 RCT-29	1
Phase-1 RCT-290	1
Phase-1 RCT-294	1
Phase-1 RCT-3	1
Phase-1 RCT-34	1
Phase-1 RCT-39	1
Phase-1 RCT-42	1
Phase-1 RCT-43	1

Phase-1 RCT-45	1
Phase-1 RCT-53	1
Phase-1 RCT-54	1
Phase-1 RCT-56	1
Phase-1 RCT-76	1
Phase-1 RCT-83	1
Phase-1 RCT-90	1
Phase-1 RCT-91	1
Phase-1 RCT-96	1
Phosphatidylethanolamine-binding protein	1
Phospholipase D	1
Prostaglandin H synthase	1
Protein tyrosine phosphatase alpha	1
PTEN/MMAC1	1
Retinol-binding protein (RBP)	1
Ribosomal protein L13	1
Ribosomal protein S9	1
Sarcoplasmic reticulum calcium ATPase	1
Stathmin	1
Superoxide dismutase Mn	1
Syndecan-1	1
Tissue factor pathway inhibitor	1
Tissue plasminogen activator	1
Tryptophan hydroxylase	1
Ubiquitin conjugating enzyme (RAD 6 homologue)	1
UDP-glucuronosyltransferase	1
Vascular endothelial growth factor	1
Very long-chain acyl-CoA synthetase	1
Vesicular monoamine transporter (VMAT)	1
VL30 element	1
Waf1	1

Table 19 Comparison of Predictivity for True Liver Inflammation Classification and Random Classification Using Combo Gene Sets and 6h data

Gene List*	Overall Accuracy**							
	Correct Classification				Random Classification			
	Mean	Min	-	Max	Mean	Min.	-	Max.
Combo All	0.736	(0.638	-	0.815)	0.405	(0.321	-	0.463)
Combo 5	0.660	(0.364	-	0.788)	0.448	(0.210	-	0.597)
Combo 4	0.767	(0.650	-	0.840)	0.302	(0.150	-	0.378)
Combo 3	0.745	(0.700	-	0.802)	0.357	(0.309	-	0.425)
Combo 2	0.698	(0.538	-	0.770)	0.361	(0.325	-	0.420)
Combo 1	0.515	(0.338	-	0.679)	0.378	(0.257	-	0.455)

Table 20 Distribution of Compounds* in Individual Training
and Test Sets for 72 Hour Liver Inflammation Data

Training and Test Set 1

Training Set 1 Negative**	Training Set 1 Positive**- Necrosis	Training Set 1 Positive**- Necrosis with Inflammation	Test Set 1 Negative**	Test Set 1 Positive**- Necrosis	Test Set 1 Positive**- Necrosis with Inflammation
5-FU-High ⁺	CCL4-Low ⁺	CCL4-High ⁺	5-FU-Low ⁺	APAP-High ⁺	ANIT-High ⁺
AMPB-Low	TET-High	BRB-High	THEO-Low		DMN
APAP-Low		AFLB	AMPB-High		
AZA-High		BRB-Low	ANIT-Low		
AZA-Low		LPS-High	CAD-Low		
BAP			CHCL3-High		
BEN-High			CHEX-High		
BEN-Low			CHEX-Low		
BUS			CLOZ-High		
CAD-High			CLOZ-Low		
CAR			CYCA-High		
CHCL3-Low			DEX-Low		
CHLOR-High			ERY-High		
CHLOR-Low			GAN-Low		
CIS-High			GEN-Low		
CIS-Low			HYD-Low		
CLO-High			PHEN-High		
CLO-Low			PUR-High		
CMC			PUR-Low		
CPHOS-High			QUIN-High		
CPHOS-Low			TET-Low		
CYCA-Low			THEO-High		
DEX-High					
DIF-High					
DIF-Low					
DOX					
ERY-Low					
EST-High					
EST-Low					
ETH					
GAN-High					
GEN-High					
HYD-High					

ISON-High					
ISON-Low					
KETO-High					
KETO-Low					
LPS-Low					
MET					
NAL-High					
NAL-Low					
PBARB-High					
PBARB-Low					
PEG					
PHEN-Low					
QUIN-Low					
STRZ-High					
STRZ-Low					
TAM-High					
TAM-Low					

Training and Test Set 2

Training Set 2 Negative	Training Set 2 Positive- Necrosis	Training Set 2 Positive- Necrosis with Inflammation	Test Set 2 Negative	Test Set 2 Positive- Necrosis	Test Set 2 Positive- Necrosis with Inflammation
PEG	CCL4-Low	AFLB	ANIT-Low	APAP-High	DMN
5-FU-High	TET-High	ANIT-High	APAP-Low		BRB-Low
5-FU-Low		BRB-High	BAP		
AMPB-High		CCL4-High	BEN-High		
AMPB-Low		LPS-High	CHEX-Low		
AZA-High			CIS-High		
AZA-Low			CLO-Low		
BEN-Low			CMC		
BUS			CPHOS-Low		
CAD-High			CYCA-High		
CAD-Low			DEX-Low		
CAR			EST-Low		
CHCL3-High			GEN-Low		
CHCL3-Low			ISON-Low		
CHEX-High			LPS-Low		
CHLOR-High			NAL-High		

CHLOR-Low			PBARB-High		
CIS-Low			PUR-Low		
CLO-High			QUIN-High		
CLOZ-High			STRZ-High		
CLOZ-Low			STRZ-Low		
CPHOS-High			THEO-Low		
CYCA-Low					
DEX-High					
DIF-High					
DIF-Low					
DOX					
ERY-High					
ERY-Low					
EST-High					
ETH					
GAN-High					
GAN-Low					
GEN-High					
HYD-High					
HYD-Low					
ISON-High					
KETO-High					
KETO-Low					
MET					
NAL-Low					
PBARB-Low					
PHEN-High					
PHEN-Low					
PUR-High					
QUIN-Low					
TAM-High					
TAM-Low					
TET-Low					
THEO-High					

Training Set 3 Negative	Training Set 3 Positive- Necrosis	Training Set 3 Positive- Necrosis with Inflammation	Test Set 3 Negative	Test Set 3 Positive- Necrosis	Test Set 3 Positive- Necrosis with Inflammation
5-FU-High	APAP-High	AFLB	AMPB-Low	TET-High	LPS-High
5-FU-Low	CCL4-Low	ANIT-High	ANIT-Low		CCL4-High
AMPB-High		BRB-High	AZA-Low		
APAP-Low		BRB-Low	BEN-Low		
AZA-High		DMN	CHCL3-Low		
BAP			CHEX-High		
BEN-High			CIS-Low		
BUS			CLO-High		
CAD-High			CLO-Low		
CAD-Low			CYCA-Low		
CAR			DIF-High		
CHCL3-High			ERY-Low		
CHEX-Low			EST-Low		
CHLOR-High			GAN-High		
CHLOR-Low			GAN-Low		
CIS-High			HYD-Low		
CLOZ-High			ISON-Low		
CLOZ-Low			LPS-Low		
CMC			NAL-Low		
CPHOS-High			PUR-Low		
CPHOS-Low			STRZ-High		
CYCA-High			STRZ-Low		
DEX-High					
DEX-Low					
DIF-Low					
DOX					
ERY-High					
EST-High					
ETH					
GEN-High					
GEN-Low					
HYD-High					
ISON-High					
KETO-High					
KETO-Low					
MET					
NAL-High					
PBARB-High					
PBARB-Low					

PEG					
PHEN-High					
PHEN-Low					
PUR-High					
QUIN-High					
QUIN-Low					
TAM-High					
TAM-Low					
TET-Low					
THEO-High					
THEO-Low					

Training and Test Set 4

Training Set 4 Negative	Training Set 4 Positive- Necrosis	Training Set 4 Positive- Necrosis with Inflammation	Test Set 4 Negative	Test Set 4 Positive- Necrosis	Test Set 4 Positive- Necrosis with Inflammation
AMPB-High	APAP-High	AFLB	5-FU-High	CCL4-Low	ANIT-High
ANIT-Low	TET-High	BRB-High	5-FU-Low		LPS-High
AZA-High		BRB-Low	AMPB-Low		
AZA-Low		CCL4-High	APAP-Low		
BAP		DMN	BEN-High		
BEN-Low			CHLOR-Low		
BUS			CIS-High		
CAD-High			CIS-Low		
CAD-Low			CLO-High		
CAR			CPHOS-High		
CHCL3-High			CYCA-High		
CHCL3-Low			CYCA-Low		
CHEX-High			ERY-High		
CHEX-Low			ERY-Low		
CHLOR-High			ISON-High		
CLO-Low			ISON-Low		
CLOZ-High			KETO-Low		
CLOZ-Low			PBARB-Low		
CMC			PHEN-Low		
CPHOS-Low			QUIN-Low		
DEX-High			TET-Low		
DEX-Low			THEO-Low		
DIF-High					

DIF-Low					
DOX					
EST-High					
EST-Low					
ETH					
GAN-High					
GAN-Low					
GEN-High					
GEN-Low					
HYD-High					
HYD-Low					
KETO-High					
LPS-Low					
MET					
NAL-High					
NAL-Low					
PBARB-High					
PEG					
PHEN-High					
PUR-High					
PUR-Low					
QUIN-High					
STRZ-High					
STRZ-Low					
TAM-High					
TAM-Low					
THEO-High					

Training and Test Set 5

Training Set 5 Negative	Training Set 5 Positive- Necrosis	Training Set 5 Positive- Necrosis with Inflammation	Test Set 5 Negative	Test Set 5 Positive- Necrosis	Test Set 5 Positive- Necrosis with Inflammation
TAM-Low	APAP-High	ANIT-High	AMPB-Low	TET-High	BRB-Low
CAR	CCL4-Low	BRB-High	ANIT-Low		AFLB
5-FU-High		CCL4-High	AZA-Low		
5-FU-Low		DMN	BEN-Low		
AMPB-High		LPS-High	CAD-Low		
APAP-Low			CHCL3-Low		
AZA-High			CHLOR-High		

BAP			CIS-High		
BEN-High			DEX-Low		
BUS			DIF-High		
CAD-High			EST-Low		
CHCL3-High			GAN-High		
CHEX-High			GAN-Low		
CHEX-Low			GEN-High		
CHLOR-Low			HYD-High		
CIS-Low			ISON-High		
CLO-High			KETO-High		
CLO-Low			NAL-High		
CLOZ-High			PBARB-Low		
CLOZ-Low			STRZ-High		
CMC			TET-Low		
CPHOS-High			THEO-High		
CPHOS-Low					
CYCA-High					
CYCA-Low					
DEX-High					
DIF-Low					
DOX					
ERY-High					
ERY-Low					
EST-High					
ETH					
GEN-Low					
HYD-Low					
ISON-Low					
KETO-Low					
LPS-Low					
MET					
NAL-Low					
PBARB-High					
PEG					
PHEN-High					
PHEN-Low					
PUR-High					
PUR-Low					
QUIN-High					
QUIN-Low					
STRZ-Low					
TAM-High					
THEO-Low					

Table 21 List of Genes, Whose Expression at 72 h Directly Correlates
with Liver Inflammation at 72h, Ranked by Pearson Correlation Coefficient

Gene	Correlation Coefficient
Osteoactivin	0.780
Calpactin I heavy chain	0.719
IgE binding protein	0.686
Thymosin beta-10	0.672
Stathmin	0.666
Alpha-tubulin	0.643
Gamma-actin, cytoplasmic	0.636
14-3-3 zeta	0.630
Phase-1 RCT-179	0.630
High affinity IgE receptor gamma chain (FcERlgamma)	0.627
Uncoupling protein 2	0.626
Voltage-dependent anion channel 2 (Vdac2)	0.624
Phase-1 RCT-154	0.622
Melanoma-associated antigen ME491	0.619
Phase-1 RCT-121	0.612
Phase-1 RCT-138	0.600
Phase-1 RCT-192	0.597
Phase-1 RCT-68	0.587
Phase-1 RCT-24	0.574
Beta-tubulin, class I	0.562
Beta-actin	0.550
Beta-actin, sequence 2	0.549
60S ribosomal protein L6	0.549
Cofilin	0.549
Pyruvate kinase, muscle	0.547
Phase-1 RCT-146	0.514
Phase-1 RCT-207	0.513
Organic cation transporter 3	0.506
Phase-1 RCT-293	0.504
Phase-1 RCT-12	0.502
Phase-1 RCT-211	0.502
Annexin V	0.499
Calpain 2	0.490
Multidrug resistant protein-1	0.489
Multidrug resistant protein-2	0.486
Cathepsin S	0.484
Phase-1 RCT-144	0.484
Cyclin D1	0.479
60S ribosomal protein L6 (alternate clone 1)	0.479
Biliverdin reductase	0.477

Nucleoside diphosphate kinase beta isoform	0.477
Collagen type II	0.467
Cyclin G	0.458
Cathepsin B	0.454
Phase-1 RCT-59	0.449
Ribosomal protein S8	0.445
Proliferating cell nuclear antigen gene	0.442
Phase-1 RCT-109	0.440
Hypoxanthine-guanine phosphoribosyltransferase	0.438
Tissue inhibitor of metalloproteinases-1	0.435
Poly(ADP-ribose) polymerase	0.434
Ribosomal protein S9	0.433
Tissue plasminogen activator	0.419
Adenine nucleotide translocator 1	0.415
Alpha-prothymosin	0.409
Ribosomal protein S17	0.407
Heme oxygenase	0.404
p53CDC	0.403
ID-1	0.403
Zinc finger protein	0.401

Table 22 List of Genes, Whose Expression at 72 h Inversely Correlates with Liver Inflammation at 72h, Ranked by Spearman Correlation Coefficient

Gene	Correlation Coefficient
Phase-1 RCT-181	-0.250
Apolipoprotein C1	-0.251
Hepatic lipase	-0.253
Tryptophan hydroxylase	-0.253
Tissue factor	-0.254
Monoamine oxidase B	-0.255
Choline kinase	-0.256
CDK108	-0.257
Phase-1 RCT-88	-0.259
Cholesterol esterase	-0.260
Vesicular monoamine transporter (VMAT)	-0.260
Glucokinase	-0.261
Interferon inducible protein 10	-0.264
Cytochrome P450 2D18	-0.264
Aldehyde dehydrogenase 2	-0.265
Phase-1 RCT-93	-0.265
Connexin-32	-0.267
Phase-1 RCT-178	-0.267
Phase-1 RCT-239	-0.268
Phase-1 RCT-289	-0.270
C-reactive protein	-0.271
Urinary protein 2 precursor	-0.273
Matrin F/G	-0.274
L-gulonogamma-lactone oxidase	-0.276
Epidermal growth factor	-0.278
Tyrosine hydroxylase	-0.282
Aquaporin-3 (AQP3)	-0.283
Gap junction membrane channel protein beta 1 (Gjb1)	-0.283
Phase-1 RCT-38	-0.287
NADH-cytochrome b5 reductase	-0.287
Phase-1 RCT-256	-0.288
Phase-1 RCT-36	-0.292
Phase-1 RCT-271	-0.293
Acetylcholine receptor epsilon	-0.293
Phase-1 RCT-73	-0.293
Phase-1 RCT-184	-0.295
Contrapsin-like protease inhibitor (CPI-21)	-0.297
Phase-1 RCT-280	-0.299
Presenilin-1	-0.300
BRCA1	-0.303
Phase-1 RCT-219	-0.305

Cytochrome P450 2A3	-0.306
Phase-1 RCT-161	-0.306
Alpha 1 - inhibitor III	-0.307
Cytochrome P450 3A1	-0.307
Carbonic anhydrase III	-0.308
Aryl sulfotransferase	-0.308
Acetyl-CoA carboxylase	-0.310
Insulin-like growth factor I	-0.313
Phase-1 RCT-67	-0.313
Protein tyrosine phosphatase, receptor type, D	-0.314
Phase-1 RCT-285	-0.315
Phase-1 RCT-123	-0.316
Phase-1 RCT-98	-0.317
Arginosuccinate synthetase 1	-0.319
Phase-1 RCT-83	-0.319
Cytochrome P450 2C11	-0.320
Phase-1 RCT-149	-0.320
Phase-1 RCT-227	-0.325
Phase-1 RCT-102	-0.330
Phase-1 RCT-48	-0.330
Phase-1 RCT-29	-0.331
Betaine homocysteine methyltransferase (BHMT)	-0.335
Stearyl-CoA desaturase, liver	-0.337
Phase-1 RCT-292	-0.337
Apolipoprotein CIII	-0.339
Fatty acid synthase	-0.340
Phase-1 RCT-164	-0.354
Phase-1 RCT-81	-0.354
JNK1 stress activated protein kinase	-0.355
Phase-1 RCT-260	-0.355
Equilibrative nitrobenzylthioinosine-sensitive nucleoside transporter	-0.361
Phase-1 RCT-290	-0.361
Insulin-like growth factor I, exon 6	-0.361
Phase-1 RCT-117	-0.363
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	-0.363
Glycine methyltransferase	-0.370
Phase-1 RCT-107	-0.378
Apolipoprotein AII	-0.381
Dynamin-1 (D100)	-0.391
Alpha-2-microglobulin	-0.395
Phase-1 RCT-78	-0.402

Table 23 List of genes whose expression at 72 hours is predictive of liver inflammation at 72 hours

Gene	Combinations (No of Occurrences)
Osteoactivin	5
Phase-1 RCT-211	5
Calpactin I heavy chain	5
Phase-1 RCT-179	5
Gamma-actin, cytoplasmic	5
Cofilin	4
Stathmin	4
60S ribosomal protein L6	4
Voltage-dependent anion channel 2 (Vdac2)	4
Phase-1 RCT-192	4
Adenine nucleotide translocator 1	4
Thymosin beta-10	4
High affinity IgE receptor gamma chain (FcERIgamma)	4
Uncoupling protein 2	4
IgE binding protein	4
Alpha-tubulin	4
Phase-1 RCT-12	4
Ribosomal protein S9	4
Phase-1 RCT-121	4
14-3-3 zeta	4
Beta-tubulin, class I	4
Phase-1 RCT-154	4
Phase-1 RCT-107	3
Proliferating cell nuclear antigen gene	3
Phase-1 RCT-59	3
Beta-actin, sequence 2	3
Phase-1 RCT-109	3
Carbonic anhydrase III	3
Phase-1 RCT-78	3
Collagen type II	3
Cyclin D1	3
Phase-1 RCT-138	3
Alpha-prothymosin	3
Calpain 2	3
Cathepsin B	3
Phase-1 RCT-24	3
Melanoma-associated antigen ME491	3
Phase-1 RCT-68	3
Cyclin G	3
Tissue inhibitor of metalloproteinases-1	3

Heme oxygenase	3
Ribosomal protein S17	3
Organic cation transporter 3	3
Biliverdin reductase	3
Phase-1 RCT-293	3
Phase-1 RCT-173	3
Betaine homocysteine methyltransferase (BHMT)	2
Cytochrome P450 2D18	2
Cytochrome P450 2C11	2
Phase-1 RCT-290	2
Pyruvate kinase, muscle	2
Apolipoprotein AII	2
Connexin-32	2
Glycine methyltransferase	2
Insulin-like growth factor I	2
Zinc finger protein	2
Hypoxanthine-guanine phosphoribosyltransferase	2
ID-1	2
Ribosomal protein S8	2
Nucleoside diphosphate kinase beta isoform	2
60S ribosomal protein L6 (alternate clone 1)	2
Beta-actin	2
Cathepsin S	2
Annexin V	2
Phase-1 RCT-276	2
Tyrosine aminotransferase	2
Phase-1 RCT-161	2
Multidrug resistant protein-2	2
DNA polymerase beta	2
Ubiquitin conjugating enzyme (RAD 6 homologue)	2
Ribosomal protein L13A	2
Phase-1 RCT-144	2
c-H-ras	2
Vesicular monoamine transporter (VMAT)	2
Phase-1 RCT-273	2
Phase-1 RCT-80	2
Phase-1 RCT-260	2
Neuronal cell adhesion molecule (NrCAM)	2
Hepatocyte growth factor receptor	2
Caveolin-3	2
Phase-1 RCT-129	2
Phase-1 RCT-146	2
Phase-1 RCT-292	1
L-gulono-gamma-lactone oxidase	1
Phase-1 RCT-256	1
Urinary protein 2 precursor	1
Aryl sulfotransferase	1

Phase-1 RCT-185	1
Phase-1 RCT-34	1
Phase-1 RCT-31	1
Complement factor I (CFI)	1
Glutathione peroxidase	1
Histidine-rich glycoprotein	1
Carbonic anhydrase III, sequence 2	1
Phase-1 RCT-92	1
Transitional endoplasmic reticulum ATPase	1
Phase-1 RCT-88	1
Phase-1 RCT-296	1
Glutathione S-transferase theta-1	1
Phase-1 RCT-168	1
Phase-1 RCT-182	1
JNK1 stress activated protein kinase	1
Phase-1 RCT-81	1
Phase-1 RCT-33	1
Phase-1 RCT-178	1
Apolipoprotein CIII	1
Phase-1 RCT-98	1
NADH-cytochrome b5 reductase	1
Alpha 1 - inhibitor III	1
Phase-1 RCT-233	1
Paraoxonase 1	1
Presenilin-1	1
Apolipoprotein C1	1
Cytochrome P450 2C23	1
Phase-1 RCT-227	1
Hepatic lipase	1
Phase-1 RCT-164	1
Insulin-like growth factor I, exon 6	1
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	1
Dynamin-1 (D100)	1
Phase-1 RCT-230	1
Phase-1 RCT-74	1
Phase-1 RCT-158	1
Deoxycytidine kinase	1
Dopamine receptor D2	1
Phase-1 RCT-51	1
Four repeat ion channel	1
Adrenomedullin	1
Phase-1 RCT-94	1
Sarcoplasmic reticulum calcium ATPase	1
Phase-1 RCT-79	1
Phase-1 RCT-252	1
Phase-1 RCT-151	1
Phase-1 RCT-70	1

Phase-1 RCT-150	1
25-hydroxyvitamin D3-1 alpha-hydroxylase	1
Phase-1 RCT-119	1
Peroxisomal 3-ketoacyl-CoA thiolase 2	1
Superoxide dismutase Mn	1
Phase-1 RCT-115	1
Alpha-1 microglobulin/bikunin precursor (Ambp)	1
Phase-1 RCT-18	1
Maspin	1
Decorin	1
Retinoid X receptor alpha	1
Cellular nucleic acid binding protein (CNBP)	1
NADPH cytochrome P450 oxidoreductase	1
Malic enzyme	1
Caspase 1	1
Cystatin C	1
p55CDC	1
Poly(ADP-ribose) polymerase	1
Tissue plasminogen activator	1
Multidrug resistant protein-1	1
Phase-1 RCT-207	1
Phase-1 RCT-181	1
Gap junction membrane channel protein beta 1 (Gjb1)	1
Aquaporin-3 (AQP3)	1
Myelin basic protein	1
Phase-1 RCT-213	1
Phase-1 RCT-156	1
Proteasome activator 28 alpha	1

Table 24 Comparison of Predictivity for True Liver Inflammation Classification and Random Classification Using Combo Gene Sets and 72h data

Gene List*	Overall Accuracy**							
	Correct Classification				Random Classification			
	Mean	Min	-	Max	Mean	Min.	-	Max.
Combo All	0.752	(0.625	-	0.847)	0.368	(0.250	-	0.459)
Combo 5	0.672	(0.589	-	0.722)	0.363	(0.295	-	0.419)
Combo 4	0.793	(0.694	-	0.917)	0.344	(0.222	-	0.458)
Combo 3	0.793	(0.639	-	0.905)	0.333	(0.250	-	0.392)
Combo 2	0.708	(0.597	-	0.819)	0.349	(0.288	-	0.473)
Combo 1	0.675	(0.608	-	0.708)	0.377	(0.208	-	0.466)

Table 25 RCT genes (ESTs) Predictive for Liver Inflammation:
Best Homology Matches

Gene Name	Homology
Phase-1 RCT-10	Rattus norvegicus methylmalonate semialdehyde dehydrogenase gene (Mmsdh)
Phase-1 RCT-102	Mouse pentylentetrazol-related mRNA PTZ-17 (3'UTR of E3.1)
Phase-1 RCT-103	no significant homology found
Phase-1 RCT-107	no significant homology found
Phase-1 RCT-108	no significant homology found
Phase-1 RCT-109	Rattus norvegicus nesprin-1 mRNA
Phase-1 RCT-111	Mus musculus B lymphoid kinase (Blk)
Phase-1 RCT-112	no significant homology found
Phase-1 RCT-113	no significant homology found
Phase-1 RCT-114	Mus musculus, glypican 4, clone MGC:11506 IMAGE:3967797, mRNA, complete cds
Phase-1 RCT-115	no significant homology found
Phase-1 RCT-117	no significant homology found
Phase-1 RCT-119	no significant homology found
Phase-1 RCT-12	no significant homology found
Phase-1 RCT-121	no significant homology found
Phase-1 RCT-123	no significant homology found
Phase-1 RCT-127	no significant homology found
Phase-1 RCT-128	Mus musculus angiopoietin-related protein 3 (Angptl3)
Phase-1 RCT-129	Mus musculus Nedd4 WW binding protein 4 (N4wbp4-pending), mRNA
Phase-1 RCT-13	Mus musculus 0 day neonate skin cDNA, RIKEN full-length enriched library, clone:4632417K18, full insert sequence
Phase-1 RCT-136	Mus musculus RIKEN cDNA 3010027G13 gene (3010027G13Rik), mRNA
Phase-1 RCT-137	Mus musculus adult male tongue cDNA
Phase-1 RCT-138	Mus musculus DAP10 (Dap10) gene
Phase-1 RCT-140	Mouse 13 days embryo head cDNA, RIKEN full-length enriched library, clone:3100001I08
Phase-1 RCT-141	Mus musculus proteoglycan 3 (megakaryocyte stimulating factor, articular superficial zone protein) (Prg4)

Phase-1 RCT-142	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1190008J14
Phase-1 RCT-143	Homo sapiens NADH dehydrogenase (ubiquinone) Fe-S protein 8 (23kD) (NADH-coenzyme Q reductase) (NDUFS8)
Phase-1 RCT-144	Mus musculus, similar to nucleolar protein (KKE/D repeat), clone IMAGE:3491448, mRNA, partial cds.
Phase-1 RCT-145	Mus musculus 10 day old male pancreas cDNA, RIKEN full-length enriched library, clone:1810014B19, full insert sequence
Phase-1 RCT-146	Mus musculus 8 days embryo cDNA, RIKEN full-length enriched library, clone:5730458E20
Phase-1 RCT-148	Mus musculus adult male kidney cDNA, RIKEN full-length enriched library, clone:0610010B16
Phase-1 RCT-15	Mus musculus ubiquitin conjugating enzyme 7 mRNA, complete cds
Phase-1 RCT-150	Mus musculus SIR2L3 isoform B (Sir2L3) mRNA, complete cds;alternatively spliced
Phase-1 RCT-151	Mus musculus, Similar to sphingomyelin phosphodiesterase 1, acid lysosomal, clone MGC:11522 IMAGE:3964394
Phase-1 RCT-152	Mus musculus, eukaryotic translation elongation factor 1 beta 2, clone MGC:6763 IMAGE:3600850, mRNA, complete cds.
Phase-1 RCT-154	Mus musculus vacuolar ATPase subunit D (Atp6m) mRNA, complete cds
Phase-1 RCT-156	no significant homology found
Phase-1 RCT-158	Rattus norvegicus cyclin-dependent kinase inhibitor 1B
Phase-1 RCT-161	Mus musculus adult male spleen cDNA, RIKEN full-length enriched library, clone:0910001D19
Phase-1 RCT-164	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4932443D16
Phase-1 RCT-166	Mus musculus, Similar to glutathione S-transferase theta 1, clone MGC:6769 IMAGE:3601446
Phase-1 RCT-168	M.musculus mRNA for low density lipoprotein receptor, ACCESSION X64414 S51850
Phase-1 RCT-169	Mus musculus, small inducible cytokine B subfamily (Cys-X-Cys), member 9, clone MGC:6179 IMAGE:3257716, mRNA, complete
Phase-1 RCT-173	Mus musculus NADP+-specific isocitrate dehydrogenase mRNA, complete cds; nuclear gene for mitochondrial product
Phase-1 RCT-174	Homo sapiens normal mucosa of esophagus specific 1 (NMES1) mRNA, complete cds; nuclear gene for mitochondrial product
Phase-1 RCT-175	Mus musculus RIKEN cDNA 1190017B19 gene (1190017B19Rik), mRNA,
Phase-1 RCT-178	Mus musculus, thioether S-methyltransferase, clone MGC:19191 IMAGE:4236077, mRNA, complete cds

Phase-1 RCT-179	Rat nucleolar protein B23.2 mRNA
Phase-1 RCT-18	no significant homology found
Phase-1 RCT-180	Mus musculus B-cell receptor-associated protein 37 (Bcap37
Phase-1 RCT-181	Mus musculus adult male testis cDNA
Phase-1 RCT-182	Rattus norvegicus glb mRNA for diacetyl/L-xylulose reductase
Phase-1 RCT-184	no significant homology found
Phase-1 RCT-185	no significant homology found
Phase-1 RCT-189	Rattus norvegicus eukaryotic translation initiation factor 4E (Eif4e), mRNA
Phase-1 RCT-191	Mus musculus, Similar to proteasome (prosome, macropain) 26S subunit, non-ATPase, 3, clone MGC:6405 IMAGE:3586427, mRNA, complete cds
Phase-1 RCT-192	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1110033J19
Phase-1 RCT-195	Mus musculus, Similar to protein kinase C substrate 80K-H, clone MGC:13908 IMAGE:4008182, mRNA, complete cds
Phase-1 RCT-196	Homolous to Mus musculus 12 days embryo head cDNA, RIKEN full-length enriched library, clone:3010001M15
Phase-1 RCT-197	Rattus norvegicus Protein kinase, interferon-inducible double stranded RNA dependent (Prkr), mRNA
Phase-1 RCT-202	Mus musculus, Similar to hypothetical protein AB030201, clone MGC:18837 IMAGE:4211629, mRNA, complete cds
Phase-1 RCT-204	Mouse DNA sequence from clone RP23-138F20 on chromosome 13, complete sequence [Mus musculus]
Phase-1 RCT-205	no significant homology found
Phase-1 RCT-207	Mus musculus Ran binding protein 5 mRNA, partial cds
Phase-1 RCT-209	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4930583H14, full insert sequence
Phase-1 RCT-211	Mus musculus adult male kidney cDNA, RIKEN full-length enriched library, clone:0610009C22
Phase-1 RCT-212	Mus musculus nuclear localization signal protein absent in velo-cardio-facial patients (Nlvcf)
Phase-1 RCT-213	Homo sapiens pM5 protein (PM5), mRNA
Phase-1 RCT-214	Mus musculus putative NAD(P)H steroid dehydrogenase mRNA
Phase-1 RCT-215	Mus musculus RAB/Rip protein mRNA
Phase-1 RCT-218	no significant homology found
Phase-1 RCT-219	Rattus norvegicus 2'5' oligoadenylate synthetase-2 mRNA, complete cds
Phase-1 RCT-22	Mus musculus, clone MGC:19042 IMAGE:4188988, mRNA

Phase-1 RCT-221	no significant homology found
Phase-1 RCT-225	Rattus norvegicus chromosome 4 clone RP31-327J16 strain Brown Norway, complete sequence
Phase-1 RCT-227	no significant homology found
Phase-1 RCT-230	Mus musculus GDP-dissociation inhibitor mRNA, preferentially expressed in hematopoietic cells, complete cds
Phase-1 RCT-233	no significant homology found
Phase-1 RCT-235	Rattus villosissimus RT1.Ba gene, RT1.Ba-R154 allele, intron b, complete sequence
Phase-1 RCT-239	Mus musculus adult male tongue cDNA, RIKEN full-length enriched library, clone:2300007B01, full insert sequence
Phase-1 RCT-24	Mus musculus, tubulin alpha 8, clone MGC:28850 IMAGE:4507364, mRNA,
Phase-1 RCT-240	Mus musculus, clone MGC:7041
Phase-1 RCT-241	Mus musculus oncostatin receptor (Osmr), mRNA
Phase-1 RCT-242	Rattus norvegicus B-cell translocation gene 2, anti-proliferative(Btg2),
Phase-1 RCT-25	Mouse DNA sequence from clone RP23-278F12 on chromosome 11, complete sequence
Phase-1 RCT-251	no significant homology found
Phase-1 RCT-252	Mus musculus EH-domain containing 3 (Ehd3),
Phase-1 RCT-256	Mus musculus, Similar to betaine-homocysteine methyltransferase 2, clone MGC:19186 IMAGE:4235455
Phase-1 RCT-258	Mus musculus, clone MGC:6139 IMAGE:3487295, mRNA
Phase-1 RCT-259	Mus musculus adult female placenta cDNA, RIKEN full-length enriched library, clone:1600023I01:interferon-stimulated protein (20 kDa), full insert sequence
Phase-1 RCT-260	Mus musculus adult male hippocampus cDNA, RIKEN full-length enriched library, clone:2900024P20
Phase-1 RCT-261	no significant homology found
Phase-1 RCT-264	Mus musculus sodium-sulfate cotransporter (Nas1) gene
Phase-1 RCT-27	Mus musculus adult male kidney cDNA
Phase-1 RCT-270	Mus musculus, RIKEN cDNA 2010011I20 gene, clone MGC:27703, IMAGE:4924329, mRNA, complete cds
Phase-1 RCT-271	Homologous to Mus musculus, clone MGC:27581 IMAGE:4489072, mRNA
Phase-1 RCT-273	no significant homology found
Phase-1 RCT-276	Homo sapiens KIAA1224 protein
Phase-1 RCT-278	Mus musculus brain protein 17 (Brp17), mRNA
Phase-1 RCT-28	no significant homology found
Phase-1 RCT-280	Mus musculus carbohydrate (keratan sulfate Gal-6) sulfotransferase 1 (Chst1),

Phase-1 RCT-281	Mus musculus, Similar to TNF-induced protein, clone MGC:11714
Phase-1 RCT-282	Mus musculus, SEC61, alpha subunit 2 (S. cerevisiae), clone MGC:6359 IMAGE:3494001, mRNA, complete cds
Phase-1 RCT-287	Mus musculus adult male kidney cDNA clone:0610010120
Phase-1 RCT-288	no significant homology found
Phase-1 RCT-289	Mus musculus adult male liver cDNA, RIKEN full-length enriched library, clone:1300003K24, full insert sequence
Phase-1 RCT-29	no significant homology found
Phase-1 RCT-290	Homo sapiens chromosome 14 clone BAC 201F1 map 14q24.3, complete sequence
Phase-1 RCT-291	no significant homology found
Phase-1 RCT-292	Rattus norvegicus 2'5' oligoadenylate synthetase-2
Phase-1 RCT-293	Mus musculus 18 days embryo cDNA, RIKEN full-length enriched library, clone:1110021C22
Phase-1 RCT-294	Mus musculus adult male cerebellum cDNA, RIKEN full-length enriched library, clone:1500035D08:vesicle-associated membrane protein 1, full insert sequence
Phase-1 RCT-296	Mus musculus corticosteroid binding globulin (Cbg)
Phase-1 RCT-297	Mus musculus squalene epoxidase (Sqle), H
Phase-1 RCT-3	no significant homology found
Phase-1 RCT-30	Homo sapiens putative protein-tyrosine kinase (LOC51086),
Phase-1 RCT-31	Mouse 10, 11 days embryo cDNA, RIKEN full-length enriched library, clone:2810437P06
Phase-1 RCT-32	no significant homology found
Phase-1 RCT-33	no significant homology found
Phase-1 RCT-34	no significant homology found
Phase-1 RCT-36	no significant homology found
Phase-1 RCT-37	no significant homology found
Phase-1 RCT-38	Mus musculus betaine-homocysteine methyltransferase 2 (Bhmt2) mRNA,
Phase-1 RCT-40	Rattus norvegicus Cathepsin C (dipeptidyl peptidase I) (Ctsc)
Phase-1 RCT-42	Mus musculus STAT5B (Stat5b)
Phase-1 RCT-43	no significant homology found
Phase-1 RCT-45	Mus musculus Nedd4-binding brain specific protein BEAN mRNA, partial cds
Phase-1 RCT-48	Mus musculus adult male liver cDNA, RIKEN full-length enriched library, clone:1300003K24, full insert sequence
Phase-1 RCT-49	No match with score above 200
Phase-1 RCT-50	Mus musculus fibroblast growth factor regulated protein 2
Phase-1 RCT-51	Rattus norvegicus unknown Glu-Pro dipeptide repeat protein
Phase-1 RCT-52	Rattus norvegicus D5d mRNA for delta-5 fatty acid desaturase
Phase-1 RCT-53	no significant homology found
Phase-1 RCT-54	Mus musculus 10 days embryo cDNA, RIKEN full-length enriched library, clone:2610007A05, full insert sequence
Phase-1 RCT-55	M.musculus myoglobin gene exons 2-3
Phase-1 RCT-56	M.musculus myoglobin gene exons 2-3
Phase-1 RCT-59	no significant homology found
Phase-1 RCT-60	Mouse, Similar to tyrosyl-tRNA synthetase, clone MGC:19350

Phase-1 RCT-62	no significant homology found
Phase-1 RCT-63	no significant homology found
Phase-1 RCT-64	no significant homology found
Phase-1 RCT-65	no significant homology found
Phase-1 RCT-66	M.musculus mRNA for low density lipoprotein receptor
Phase-1 RCT-67	no significant homology found
Phase-1 RCT-68	Rattus norvegicus nucleosome assembly protein mRNA
Phase-1 RCT-70	Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone:4933406P04, full insert sequence
Phase-1 RCT-71	Mus musculus, clone MGC:11987 IMAGE:3601737, mRNA
Phase-1 RCT-72	no significant homology found
Phase-1 RCT-73	no significant homology found
Phase-1 RCT-74	no significant homology found
Phase-1 RCT-75	Mus musculus adult male liver cDNA, RIKEN full-length enriched library, clone:1300002K09, full insert sequence
Phase-1 RCT-76	no significant homology found
Phase-1 RCT-77	Mus musculus, Similar to hypothetical protein AB030201, clone MGC:18837 IMAGE:4211629, mRNA, complete cds
Phase-1 RCT-78	Mus musculus adult male lung cDNA, RIKEN full-length enriched library, clone:1200015G06, full insert sequence
Phase-1 RCT-79	no significant homology found
Phase-1 RCT-8	Messenger RNA for rat preproalbumin
Phase-1 RCT-80	no significant homology found
Phase-1 RCT-81	no significant homology found
Phase-1 RCT-82	Mus musculus nucleosome binding protein 1 (Nsbp1),
Phase-1 RCT-83	no significant homology found
Phase-1 RCT-88	no significant homology found
Phase-1 RCT-89	no significant homology found
Phase-1 RCT-9	Mus musculus adult male liver cDNA, RIKEN full-length enriched library, clone:1300003M23, full insert sequence
Phase-1 RCT-90	no significant homology found
Phase-1 RCT-91	no significant homology found
Phase-1 RCT-92	no significant homology found
Phase-1 RCT-94	Rattus norvegicus Glutamate receptor, metabotropic 5 (Grm5)
Phase-1 RCT-95	no significant homology found
Phase-1 RCT-96	Mus musculus, ADP-ribosylation factor 3, clone MGC:6687 IMAGE:3582243, mRNA, complete cds,

Table 27 Liver Inflammation Predictive Genes Whose Protein Products Are Known to be Secreted
Adrenomedullin
Alpha 1 - inhibitor III
Alpha-1 acid glycoprotein
Alpha-1 microglobulin/bikunin precursor (Ambp)
Alpha-2-macroglobulin, sequence 2
Alpha-2-microglobulin
Alpha-fetoprotein
Apolipoprotein AI
Apolipoprotein C1
Apolipoprotein CIII
Apolipoprotein E
Ceruloplasmin
Ciliary neurotrophic factor
Colony-stimulating factor-1
Complement component C3
Complement factor I (CFI)
Histidine-rich glycoprotein
Insulin-like growth factor binding protein 1
Insulin-like growth factor binding protein 5
Insulin-like growth factor I
Insulin-like growth factor I, exon 6
Inter-alpha-inhibitor H4 heavy chain (Itih4)
Interferon related developmental regulator IFRD1 (PC4)
Interleukin-10
Macrophage inflammatory protein-1 alpha
Macrophage inflammatory protein-2 alpha
Matrix metalloproteinase-1
NGF-inducible anti-proliferative putative secreted protein (PC3)
Osteopontin
Paraoxonase 1
Preproalbumin, sequence 2
Selenoprotein P
Stem cell factor
Tissue factor pathway inhibitor
Tissue inhibitor of metalloproteinases-1
Tissue plasminogen activator
Transthyretin
Urinary protein 2 precursor
Vascular endothelial growth factor

What is claimed is:

1. A method of predicting the liver toxicity in an individual to an agent comprising:

obtaining a biological sample from the individual treated with the agent; measuring the expression of one or more liver toxicity predictive genes in the sample, wherein the genes are selected from the group consisting of partial gene sequences of genes identified as responsive to agents causing liver inflammation, thereby generating a test expression profile; and

using the test expression profile with a set of reference expression profiles in a Predictive Model to determine whether the agent will induce liver toxicity in the individual.

2. The method according to claim 1, wherein the liver toxicity predictive genes are selected from the group of partial gene sequences listed in Table 26 that represent 24 hour combo All genes.

3. The method according to claim 2, wherein the partial gene sequences correspond to rat genes.

4. The method according to claim 2, wherein the partial gene sequences correspond to dog genes.

5. The method according to claim 2, wherein the partial gene sequences correspond to non-human primate genes.

6. The method according to claim 2, wherein the partial gene sequences correspond to human genes.

7. The method according to claim 1, wherein the liver toxicity predictive genes are selected from the group of partial gene sequences listed in Table 26 that represent 24 hour combo 3 genes.

8. The method according to claim 7, wherein the partial gene sequences correspond to rat genes.
9. The method according to claim 7, wherein the partial gene sequences correspond to dog genes.
10. The method according to claim 7, wherein the partial gene sequences correspond to non-human primate genes.
11. The method according to claim 7, wherein the partial gene sequences correspond to human genes.
12. The method according to claim 1, wherein the liver toxicity predictive genes are selected from the group of partial gene sequences listed in Table 26 that represent 24 hour Combo 5 genes.
13. The method according to claim 12, wherein the partial gene sequences correspond to rat genes.
14. The method according to claim 12, wherein the partial gene sequences correspond to dog genes.
15. The method according to claim 12, wherein the partial gene sequences correspond to non-human primate genes.
16. The method according to claim 12, wherein the partial gene sequences correspond to human genes.
17. A method of predicting the liver toxicity of an agent using an in vitro system, comprising the steps of:
 - obtaining a biological sample from in-vitro cultured cells or explants treated with the agent;
 - measuring the expression of one or more liver toxicity predictive genes in the sample, wherein the genes are selected from the group consisting of partial

gene sequences of genes identified as responsive to agents causing liver inflammation, thereby generating a test expression profile; and

using the test expression profile with a set of reference expression profiles in a Predictive Model to determine whether the agent will induce liver toxicity in the individual.

18. The method according to claim 17, wherein the liver toxicity predictive genes are selected from the group of partial gene sequences listed in Table 26 that represent 24 hour combo All genes.

19. The method according to claim 18, wherein the partial gene sequences correspond to rat genes.

20. The method according to claim 18, wherein the partial gene sequences correspond to dog genes.

21. The method according to claim 18, wherein the partial gene sequences correspond to non-human primate genes.

22. The method according to claim 18, wherein the partial gene sequences correspond to human genes.

23. The method according to claim 17, wherein the liver toxicity predictive genes are selected from the group comprising of 24 hour Combo 2 genes.

24. The method according to claim 23, wherein the partial gene sequences correspond to rat genes.

25. The method according to claim 23, wherein the partial gene sequences correspond to dog genes.

26. The method according to claim 23, wherein the partial gene sequences correspond to non-human primate genes.

27. The method according to claim 23, wherein the partial gene sequences correspond to human genes.

28. The method according to claim 17, wherein the liver toxicity predictive genes are selected from the group of partial gene sequences listed in Table 26 that represent 24 hour Combo 5 genes.

29. The method according to claim 28, wherein the partial gene sequences correspond to rat genes.

30. The method according to claim 28, wherein the partial gene sequences correspond to dog genes.

31. The method according to claim 28, wherein the partial gene sequences correspond to non-human primate genes.

32. The method according to claim 28, wherein the partial gene sequences correspond to human genes.

33. A process for predicting the liver toxicity in a biological sample from an individual, in-vitro cell cultures or explants to an agent via a programmable machine, the process comprising the steps of:

obtaining a biological sample treated with the agent;

measuring the expression of one or more liver toxicity predictive genes in the sample, wherein the genes are selected from the group consisting of partial gene sequences of genes identified as responsive to agents causing liver inflammation, thereby generating a test expression profile; and

using the test expression profile with a set of reference expression profiles in a Predictive Model to determine whether the agent will induce liver toxicity in the individual.

34. A computer program product for enabling a computer to perform Predictive Model analysis for liver toxicity on a biological sample from an individual, in-vitro

cell cultures or explants to an agent, the computer program product comprising:

software instructions for enabling the computer to perform predetermined operations, and a computer readable medium embodying the software instructions;

the pre-determined operations comprising:

measuring an expression of one or more liver toxicity predictive genes in a sample, wherein the genes are selected from the group consisting of partial gene sequences of genes identified as responsive to agents causing liver inflammation, thereby generating a test expression profile; and

using the test expression profile with a set of reference expression profiles in a Predictive Model to determine whether the agent will induce liver toxicity in the individual.

35. A Computer system adopted to predict liver toxicity in a biological sample from an individual, in-vitro cell cultures, or explants to an agent, comprising a processor and a memory including software instructions adapted to enable the computer system to perform operations comprising:

measuring the expression of one or more liver toxicity predictive genes in the sample, wherein the genes are selected from the group consisting of partial gene sequences of genes identified as responsive to agents causing liver inflammation, thereby generating a test expression profile; and

using the test expression profile with a set of reference expression profiles in a Predictive Model to determine whether the agent will induce liver toxicity in the individual.

36. A computer program product for predicting liver toxicity from a test sample expression profile, comprising:

an encrypted training data set;

encrypted lists of genes selected from genes predictive of liver toxicity to be used with the encrypted training data set, and

a Predictive Model that uses the encrypted training data sets, the encrypted lists of genes, and the test sample expression profile to predict the liver toxicity of the test sample.

37. The computer program product of claim 36, wherein the encrypted lists of genes are selected from any Combination Category appearing in Tables 5, 18 and 23.

38. The computer program product of claim 36, wherein the encrypted lists of genes comprise a 24 hour Combo All genes as set in Table 5.

39. The computer program product of claim 36, wherein the encrypted lists of genes comprise a 6 hour Combo All genes as set in Table 18.

40. The computer program product of claim 36, wherein the encrypted lists of genes comprise a 72 hour Combo All genes as set in Table 23.

41. A method for mining genes predictive for liver toxicity, comprising the steps of:

collecting expression levels of a plurality of candidate toxicity predictive genes among a multiplicity of samples;

defining a group of samples to be a training set;

defining another group of samples to be a test set;

optionally generating additional training and test sets; and

selecting a set of genes which are predictive of liver toxicity based on evaluating the training and test sets in a Predictive Model.

42. The method according to claim 41, wherein the expression levels are stored as a database on an electronic medium.

43. An integrated system for predicting liver toxicity, comprising:

means for measuring gene expression profiles of genes predictive of liver toxicity from biological samples exposed to a test agent; and

a computer system operably linked to the means wherein the computer system is capable of implementing a Predictive Model.

44. A method of identifying one or more liver inflammation predictive genes, the method comprising:

- providing a set of candidate toxicity predictive genes;
- evaluating said genes for their predictive performance with at least one training and test set of data in a Predictive Model to identify genes which are predictive of liver inflammation; and

- testing the performance of predictive genes for their ability to predict liver inflammation for: (i) different test sets of data, (ii) comparison of prediction for accurate versus random classification, and (iii) prediction using test data external to the data used to derive the predictive genes.

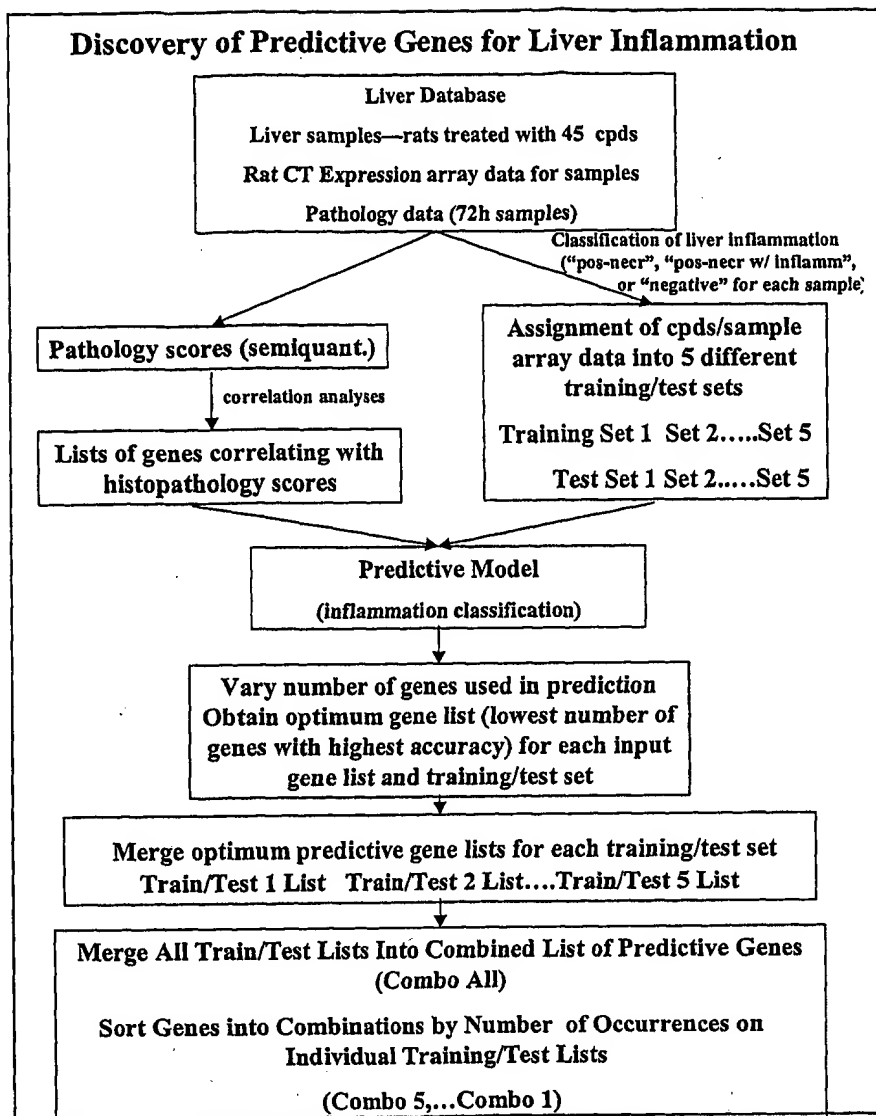
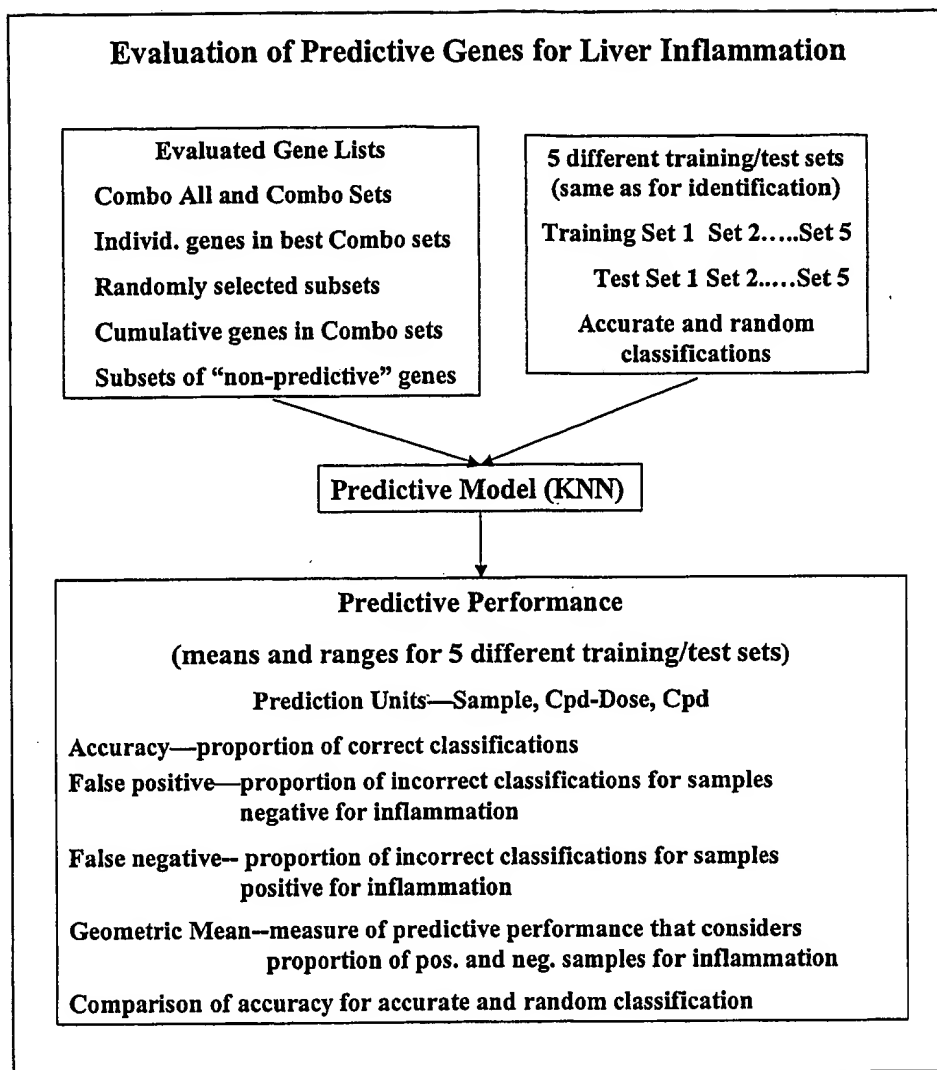
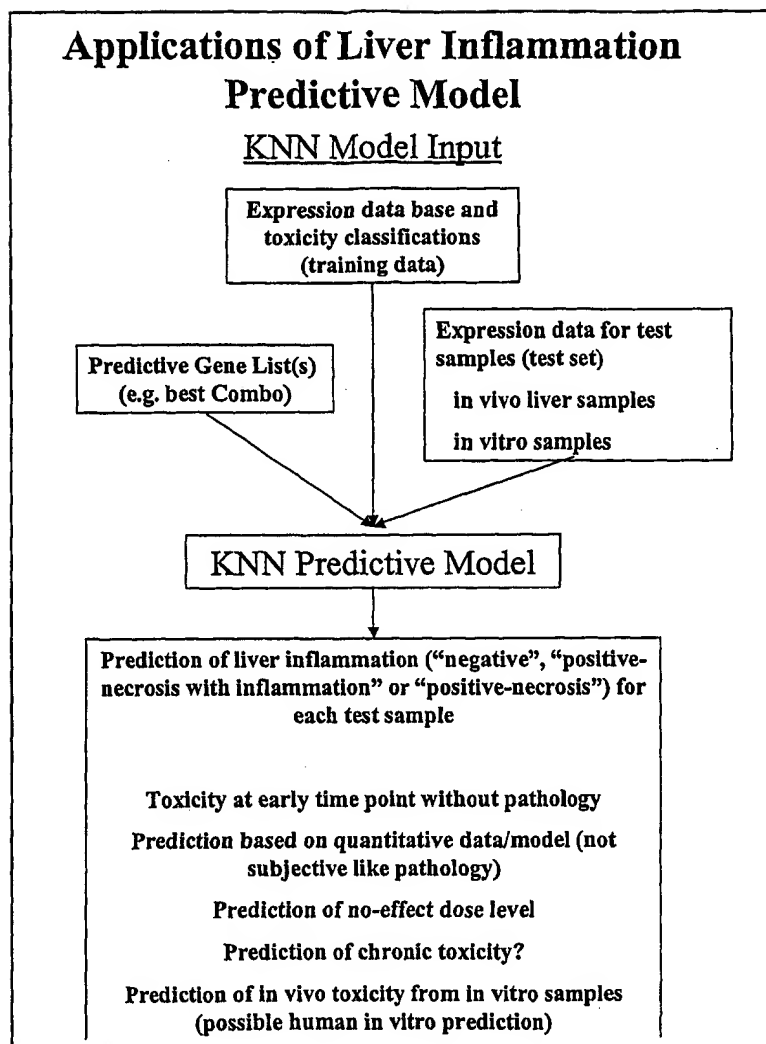


Figure 1

**Figure 2**

**Figure 3**

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Table 28

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Table 26

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Table 26

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Carbonic anhydrase III	M22413	AB030829	X84349	L07738	J00710	U14647	U84410
Carbonic anhydrase III, sequence 2							
Carbonyl reductase							
Carminine palmitoyl-CoA transferase							
Caselin-alpha							
Caspase 1							
Caspase 3							

Table 26

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Table 28

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Phase-1 RCT-25	TATGACATGATTAACAAATTAATAGCACTACTATAGGGAATTTGGCCCTCGAGGCGCAAGAAATTCGGACAGAGGCTGCGCTCTGATAGCTGCACAG AAGCTCTTTGGGACACACACTTACTTTAGTGTGCTGATTAAGTTAAAGTAAGAGAAATGGTTTTTATCTTACTTGGTGAACAAAGTAATGTAATTTTACAT ATTTCTTTGATGAAATTTAGCAGTAAATTTGAACTGTTTATGATAGGATTTTATTTAGTCTTTTACTAGCTGTTTACTAGCTGTTTACTAGCTGTTT TGCTTTTCTTCAACAGGTAACCACTGAGTGTGTTGGAATGTTTAAATGTTTAAATGTTTAAATGTTTAAATGTTTAAATGTTTAAATGTTTAAATGTTT TGCTTTTCTGAGGTACCAAAAC AATTTAGCTTGGCACTGGCCCTGCTTTTACAGCTGCTGACTGGGAACCCCTGGGCTTACCACTTAATGCTCTTGACGACATCCCTCTTTGCG CAGTGGGTATTAALGAGAGGCGCGGACCGATGGCCCTTCCCAACAGTTGGGAGCC CINNINNINNINNTCTATGACATGATTAAGCACTACTATAGGGAATTTGGCCCTCGAGGCGCAAGAAATTCGGACAGAGGCTGCGCTCTGATAGCTGCACAG GCCTTCAAGAGCTTGAATTTGGCTATGCTGATGAGGATTTTCTCAATTTTGGTCCCTTTCCCAAGAAACCCCTCTTGGGTGAGGTGAGGTAAGAA CTAACAGGCTGCTGATGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGATGCTGATGCT TTACTGCTGAGGCTGACAGTGGGAACTGCTCTTCTATACCTGCTCCCAATGCTGACAGCTTGTATGCTGAGGAGGACACAGTATGATGCTGCTT GTACGTTTGTCTTATTTATGATAAGCATCAAGGCTCTTTATTTTGGTATTTGAGACAGGCTCATACCATGCTGCGCTTGTGCTGCTT AATCTCCAGTTCCAGACTTAACGACATGATCTTTAAGATCAGATAGGAGTCCGGAATTTCAATGGAGCTGGTAACC
Phase-1 RCT-251	TATGACATGATTAACAAATTAATAGCACTACTATAGGGAATTTGGCCCTCGAGGCGCAAGAAATTCGGACAGAGGCTGCGCTCTGATAGCTGCACAG CACCCTCATCAGGTACTGCTGGAACAGGATTTTCCAGGATAGGATGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCTGAGGCT GTGAGGGAATCATCCTGTGGGAGCGCTGTGGT GTGTGGGCACTGCTGCAACGCTGTCTAGAAATGATCAGTGTGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT TATGATTTTGTCTGCT AGAAGTCAACAGGCTGCAAGACCAAGGATGAGGATGAGGATGAGGATGAGGATGAGGATGAGGATGAGGATGAGGATGAGGATGAGGATGAGGATGAGGAT AAGTGTGATGACATGCTGGCCATGACATTCGCGCT ASCATTTTGAGGAACCTTCCAGGCGCTTTGGGCT TCTCTAATGAT TGAT ACAGAGCTTCCATCCCATCCCAAGGCTGATGAGGATGAGGATGAGGATGAGGATGAGGATGAGGATGAGGATGAGGATGAGGATGAGGATGAGGATGAGGAT GCAACCTTGGTAAATGCT TTGAACGAT CTACTGATGCGCAAGGACCATAGAGCT ATTCAAGTAAATGCAATGCAATGCAATGCAATGCAATGCAATGCAATGCAATGCAATGCAATGCAATGCAATGCAATGCAATGCAATGCAATGCAATGCAAT CTGGCCCTAN
Phase-1 RCT-256	TATGACATGATTAACAAATTAATAGCACTACTATAGGGAATTTGGCCCTCGAGGCGCAAGAAATTCGGACAGAGGCTGCGCTCTGATAGCTGCACAG TGAT GAGAGAGAGTCTGATCTGAGGAGGAT GTAGACAGATCCACATCAAGCGCGG GATGCT ATGCTGCGCACCCACAAATACCGCATGCTTATGCT GATGCTGCGCACCCACCTCTCTGCGGAATGAGGACACTTTGTGATTTCCATTAANGGCGCACTGCAATGCTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT TCTGAAGTGAATA
Phase-1 RCT-259	CAAGGCGCGCGCT TTGTTCTGATGCT TCTGTGAGCT AAGCTGCAAGGATCTGCT CTCTCCTCAGGCT CCCACCATCTCAGAGTCCATGCTACCATCTGCT TGCCTCTGCT
Phase-1 RCT-260	GGGGGTGAACATACAGAGGTTGNTGCTTTTGCACANAAAAATTTTGTGAACTGTGANTGNGAGTACAGAGTGTCTCTTAACCAAGTACCA CAGTTCTGAATTAACCGCT CATGAGGAATCTGCT AGCAGATGCTCAGAGACAAATTTTATTAAGAAATCTCTCATGAT TGAACCTGCT AGATGAGGATGAGAGAGGCT

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Table 20

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Table 26

Ribosomal protein S9	AGCTATTAGGTGNCACCTATAGAAATAC TCAAGCTATTACCAAGTTTGGTACC GAGCTCGGATCACTAGTAACGCGCG CGAGTGTGTTGGAATCGCCCTTCGC CGAATTTCTATGTGACCCACGGAGAC CCCTGAGAAATCGCTCTCGACCAG GAGCTAAAGTTGATTGGAGAGTATGG GCTCCGAAACAAAGCTGAGGTGTGGA GGGTCAAAATTTACCTGGCGAAGATT CGTAGGCTGCCCGGAGCTGTGSA TCGCTGGACGAGAGAGATCTCGCGG TGTGTTGAGGCGAAGCGCTCTGTGTA GAGGAGCTGTTGGAATGGGGTGGTG GATGAGGCGAAGATGGAGCTGGATT CATCTGGGCTGAAGATTGAGATT TCTTGAAGAGAGGCTGCAGACCCAG GTCTTTAAGCTGGGCTGGCCAAATC TATTCACATGCCGTTGTGCTCATCC GCCAAGCTCACATCAGGTCGCGAAG CAGTGGTGAACATTCACATTTTCATT GTTCGCTGGACTCTCAGAGACAT TGACTTCCCTCCGTTCTGCTATGG TGGCGCGCGCGCGAGGAGGAGTGAAG AAGAAAGAGAGAGAGAGAGAGAGAG X15635		Sarcoplasmic reticulum calcium ATPase
Selenoprotein P	NM_019192		
Sanescence marker protein-30	X69021		
Sodium/bile acid cotransporter	M17478		

Table 26

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Table 28

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Phase-1 RCT-32	0.93132065	0.89334613	0.65817477	0.9386557	0.8178646	0.87022346	0.9818419	1.3261445	1.2512845	2.0377539	1.40487
Protonic acid assembly factor 1	0.1016707	0.9453987	0.96189065	0.83104067	0.9178341	1.0781831	0.9197353	1.2625442	1.2625442	1.0650314	0.9067858
B-oxoacyl-CoA thiolase	0.98152988	0.96938749	0.88717622	0.98347489	0.98911025	1.001063	0.97325546	1.0620769	1.1463071	1.0076981	0.9006785
Glutathione S-transferase	0.9113551	0.9175502	0.98787728	0.97370034	0.95300455	0.9768625	0.92867188	0.9776369	1.021062	1.068368	0.9171027
Phosphatase	0.9673771	1.0312579	0.9832581	1.0776943	0.95502214	1.0079039	1.008041	0.98539634	1.1674292	0.9805656	0.917363
Phosphatase RCT-184	1.0530241	1.8962695	0.9463696	0.9869616	0.9869616	1.0084951	1.048951	0.990758	0.89751085	0.9402596	0.8686264
Phosphatase RCT-189	1.1201595	1.111117	1.1158064	1.035439	0.9907607	1.0913441	1.0027791	0.9916419	0.7934958	0.913163	0.6841381
Phosphatase RCT-169	0.95076576	0.8301044	0.73051884	0.8959553	1.1908367	1.1802434	1.1453332	0.7760975	0.8946486	1.2593625	0.9413951
Carbonic anhydrase II	0.9645554	0.82974365	0.858496	1.0017949	0.9502081	1.0654568	0.9482057	0.8542034	0.8942221	1.0038424	0.8651774
Tryptophan hydroxylase	1.032324	1.339113	1.025527	0.8791432	0.9020209	1.0309701	0.9310916	1.1311603	0.9543393	0.9715692	0.9607034
Phase-1 RCT-71	0.9523698	0.83785983	0.9376848	1.400217	1.246897	1.5738437	1.0981505	0.5226894	0.7327116	1.1813929	0.9413951
Phase-1 RCT-79	0.9523698	0.83785983	0.9376848	1.400217	1.246897	1.5738437	1.0981505	0.5226894	0.7327116	1.1813929	0.9413951
Phase-1 RCT-161	1.289143	1.1652071	1.077035	1.0282483	0.8924706	1.0921029	0.9843108	0.94571644	1.5439249	1.0985855	1.1699151
Phase-1 RCT-144	0.9053782	0.93719586	1.078653	0.8355433	0.9843108	0.6427272	1.3487167	1.447056	1.525264	1.3781925	1.1271961
Phase-1 RCT-225	0.5667768	0.8590907	0.78939448	1.0230324	0.851339	0.6427272	0.94007326	0.5908919	0.7514938	1.0049818	1.2940455
Phase-1 RCT-225	1.236674	1.353882	1.276536	0.794695	1.0138099	0.7925297	0.94007326	0.5908919	0.7514938	1.0049818	1.2940455
Cytochrome P450 2E1	1.2276917	1.2968	1.2033458	1.107162	0.9503971	1.01164	1.2303068	0.9020657	0.9088481	1.2058927	1.2507252
Id-1	0.7814506	1.3749733	0.84400646	0.8723232	0.94570135	0.91150415	0.16751516	0.9117016	0.9301807	0.75701584	0.9680204
Carbonic anhydrase II (Trn1)	0.4845036	1.075974	0.8740096	1.1657005	1.4908164	1.8716093	1.1717693	0.665224	0.258584	0.36913165	0.2673097
Tubulin	0.65710244	0.82059764	0.7880085	0.9257766	1.0351869	0.8558911	0.6496396	0.8587588	1.0399132	0.6437173	0.6338078
Complement component C3	0.9826968	0.98071466	0.8488332	0.9587667	0.9494038	0.9494038	1.6245904	0.5671925	0.8695754	1.0591921	1.3107016
Glutathione S-transferase	1.180752	0.959463	0.8771409	1.0103567	0.8509486	1.0454627	0.80332516	1.169889	0.89235973	0.9094781	1.1225715
Phase-1 RCT-173	0.835637	0.9341284	0.9714409	1.1467946	1.189917	1.1055082	0.467327	0.747327	0.4732554	0.915378	0.89633246
3-methylcrotonyl DNA pyrophosphate	0.8269238	0.8246184	0.9613400	0.9732337	1.1819423	1.1218942	0.620278	0.4825554	0.50698895	0.59843543	0.5276230

Table 28

Phase-1 RCT-72	0.95640911	0.88003176	0.93460035	1.0552289	0.94731444	0.98029547	0.98877496	1.0291665	1.022861	1.075326	1.2492676	1.2909302	1.0559598	1.0873065
Pyruvate kinase, muscle	0.95350647	0.8539659	0.87535524	1.0531774	1.0575631	0.8971153	0.86542205	1.2156251	1.1187308	1.1927398	1.2498331	1.2595511	1.2746149	1.6891045
Phase-1 RCT-286	0.84309953	0.8541612	0.8918954	0.8418201	1.0496086	1.234345	0.80075764	0.8875924	0.88170534	0.7301263	1.20156	1.2583741	1.2583741	0.5962983
Phase-1 RCT-40	0.032489	0.9754744	0.98175748	1.1829106	0.94522634	0.8943565	0.97607554	0.9664504	1.3790021	1.1146451	1.20156	1.2583741	1.2583741	0.5962983
Cytochrome P450 2C39 (alternate clone 2)	0.8832141	0.88070946	0.93887663	0.85739504	1.074224	0.5245487	0.74355115	0.88533728	0.9495998	0.9193076	1.0489162	0.9900573	2.2681464	2.4643878
Phase-1 RCT-290	1.2167371	1.0715904	0.94941556	0.8310034	1.104331	1.08223394	1.7100304	1.0216184	0.74596626	1.0489162	0.9900573	0.9900573	2.2681464	2.4643878
Phase-1 RCT-261	1.2551268	1.263715	1.254339	1.303821	1.403033	1.188334	1.2838397	1.224129	1.2193404	1.1610305	1.0768004	1.0886605	0.8415165	0.5250753
Methylglucosyl-CoA transferase alpha	0.82110494	1.2034776	1.003317	0.7870563	1.1660686	1.1233436	1.0728034	0.8995433	0.8954203	0.8522616	0.8651606	0.7996629	0.8415165	0.5250753
Cytochrome P450 1A2	3.1270152	3.549654	2.6530437	1.2457304	0.902285	0.8027843	1.1800033	0.9632044	0.93565236	0.8992374	1.3179954	1.2957274	1.5468441	1.3611894
Phase-1 RCT-287	1.422868	1.047433	0.81554135	1.3890638	0.955302	0.8028473	1.0800033	0.7937513	0.7937513	1.0112478	1.1317788	1.1265162	1.5468441	1.3611894
Noncatalytic subunit B	0.8333145	0.97536575	1.1973369	0.9083767	1.1355702	1.0404954	1.0816009	0.9676866	1.0404954	0.8193692	0.7741431	0.8323254	0.8742255	0.5340478
Phase-1 RCT-264	0.9240714	0.8528097	0.9166832	1.1634472	1.0719354	0.9754838	0.9791546	0.8791546	0.8791546	0.8791546	0.8791546	0.8791546	0.8791546	0.8791546
Phase-1 RCT-143	0.8521593	0.8642784	0.9494104	0.92459774	1.0095012	1.015138	0.9466612	0.8538444	0.8538444	0.8538444	0.8538444	0.8538444	0.8538444	0.8538444
Phase-1 RCT-117	1.1833967	1.1688137	1.0495405	0.8834435	1.152831	0.91682896	0.9460465	1.0716958	1.0716958	1.0716958	1.0716958	1.0716958	1.0716958	1.0716958
Phase-1 RCT-251	0.86374315	0.8856804	1.2108823	0.8659045	0.8659045	0.8659045	0.8659045	0.8659045	0.8659045	0.8659045	0.8659045	0.8659045	0.8659045	0.8659045
Glutathione S-transferase (theta-1)	0.97373133	0.95016503	0.95763905	0.95763905	0.95763905	0.95763905	0.95763905	0.95763905	0.95763905	0.95763905	0.95763905	0.95763905	0.95763905	0.95763905
Phase-1 RCT-91	1.1960444	0.9801294	1.0369414	0.8719438	0.8719438	0.8719438	0.8719438	0.8719438	0.8719438	0.8719438	0.8719438	0.8719438	0.8719438	0.8719438
Phase-1 RCT-142	0.9405753	0.9305863	1.027058	0.8719438	0.8719438	0.8719438	0.8719438	0.8719438	0.8719438	0.8719438	0.8719438	0.8719438	0.8719438	0.8719438
Adiponectin receptor type II	1.1541942	1.2685903	1.1716727	1.055364	0.916273	0.916273	0.916273	0.916273	0.916273	0.916273	0.916273	0.916273	0.916273	0.916273
Cytidine methyltransferase	1.0608668	1.5078229	0.9007972	1.2173304	1.1889792	1.1889792	1.1889792	1.1889792	1.1889792	1.1889792	1.1889792	1.1889792	1.1889792	1.1889792
Phase-1 RCT-261	1.071095	1.165307	1.1198	0.97265324	1.083032	1.020507	1.085097	1.085097	1.085097	1.085097	1.085097	1.085097	1.085097	1.085097
Ciliary neurotrophic factor	1.0169834	1.025687	1.0394446	0.9708671	1.0406653	0.918625	0.918625	0.918625	0.918625	0.918625	0.918625	0.918625	0.918625	0.918625
Gap junction membrane channel protein beta 1 (Gjb1)	1.3278137	1.4800731	1.0371231	1.2505974	1.0479804	1.0509363	1.0509363	1.0509363	1.0509363	1.0509363	1.0509363	1.0509363	1.0509363	1.0509363
Phase-1 RCT-95	1.0653734	1.0943666	1.0920255	1.0920255	1.0920255	1.0920255	1.0920255	1.0920255	1.0920255	1.0920255	1.0920255	1.0920255	1.0920255	1.0920255
Phase-1 RCT-287	0.86518196	0.829776	1.0057417	1.0144009	1.090542	1.1064005	1.1064005	1.1064005	1.1064005	1.1064005	1.1064005	1.1064005	1.1064005	1.1064005
Retinol-binding protein (RBP)	0.82760005	0.9455761	0.83707675	0.9677675	1.1374109	0.78302078	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825
Very long-chain acyl-CoA synthetase	0.80009558	0.9559094	0.93707675	0.9677675	1.1374109	0.78302078	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825
Syndecan-1	0.936307	1.0044895	1.1457094	0.78302078	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825
Phase-1 RCT-145	0.9368723	1.0044895	1.1457094	0.78302078	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825
Phase-1 RCT-145	0.9368723	1.0044895	1.1457094	0.78302078	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825
Phase-1 RCT-28	0.9368723	1.0044895	1.1457094	0.78302078	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825
Sarcoplasmic reticulum calcium ATPase	0.9368723	1.0044895	1.1457094	0.78302078	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825
Alpha-2-macroglobulin, sequence 2	0.9368723	1.0044895	1.1457094	0.78302078	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825
Phase-1 RCT-204	0.9368723	1.0044895	1.1457094	0.78302078	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825	0.8627825
Vascular endothelial growth factor	1.2493769	1.1561841	1.1126227	0.98258734	0.9648066	0.91881943	0.91881943	0.91881943	0.91881943	0.91881943	0.91881943	0.91881943	0.91881943	0.91881943
NADP-dependent isocitrate dehydrogenase, cytosolic	1.0143814	1.0535113	1.3957092	0.822104	1.088023	1.0472747	0.91196984	0.85792086	0.88008765	0.81534255	0.83454865	0.74846556	0.613383	0.5675138
DNA binding protein inhibitor I02	1.0428979	0.6922255	1.0131096	0.9066133	0.9446955	0.9643466	1.0078769	0.9851281	0.757579	0.532409	0.532409	0.532409	0.532409	0.532409
Glutathione S-transferase Ya	1.5458685	0.85021937	1.2858434	1.0022566	0.8223438	1.3533235	1.190515	0.5084077	0.88552815	0.532409	0.532409	0.532409	0.532409	0.532409
Espoxide hydrolase	1.4003818	1.714145	1.500072	1.000429	0.88695186	0.7154571	1.1960803	0.4197728	0.8165053	0.100339	0.1037823	0.6125636	0.1037823	0.1037823
Insulin-like growth factor I	0.55202204	0.7286986	1.2846191	0.71380116	1.1148312	0.8254892	0.5012536	0.6957085	0.9467208	0.811065	0.5800014	0.59738594	0.7261026	0.65689576
Proteoglycan H synthase	0.6756555	0.7937272	0.9251054	1.3019831	1.1805905	1.2579488	0.9795934	0.9795934	0.9795934	0.9795934	0.9795934	0.9795934	0.9795934	0.9795934
Phase-1 RCT-136	1.2051115	1.1318145	1.1308197	0.9339725	0.8138184	0.89354485	1.6971778	0.846015	0.9768534	0.9434941	0.9203646	0.910328	0.8192863	0.8494735
Phase-1 RCT-137	0.78842913	0.8227001	1.0380038	0.9725573	1.0375621	1.1725663	0.8322243	0.8959725	0.8881493	0.953582	0.7515894	0.5379983	0.4534896	0.43763077
Phase-1 RCT-138	0.8093415	0.8727001	0.9723332	0.8072246	1.1245294	1.225125	1.000511	0.8694641	0.85171237	0.767761	0.8446415	0.7245472	0.6457857	0.6361897
Hepatic lipase	1.0783955	1.290711	1.2458915	0.74528153	0.9283177	0.8627825	0.9627825	0.9627825	0.9627825	0.9627825	0.9627825	0.9627825	0.9627825	0.9627825
Phase-1 RCT-164	1.1316844	1.231427	1.1794055	0.9646134	1.0430844	1.2142371	0.8246276	1.0538137	1.0701265	0.81609187	0.85251546	0.75562495	0.85251546	0.85251546
Acyl-CoA dehydrogenase, medium chain	0.80407876	1.0072122	0.9524981	1.120042	1.100119	1.2142371	0.8246276	1.0538137	1.0701265	0.81609187	0.85251546	0.75562495	0.85251546	0.85251546
Glutathione S-transferase Yb2 subunit	1.1607784	1.2652018	1.4164796	1.0371221	1.114475	1.3037002	1.0800427	1.02143	0.8246276	0.8544066	1.2251304	1.3007454	1.525749	1.0763708
Carbamoyl reductase	1.1522654	1.1488292	1.1304657	1.031471	0.9545174	1.0033445	0.89327106	0.90061215	0.8823468	1.1381935	1.0730559	1.0730559	1.0730559	1.0730559
Phase-1 RCT-158	0.8742619	0.9168823	0.862535	1.0301288	1.304937	1.0141132	1.011132	0.8808609	0.8335452	0.895379	0.82318604	0.7215322	0.7664073	0.7664073
Apolipoprotein E	0.8425634	0.8004274	0.93197607	0.8022995	1.0301288	1.304937	1.0141132	0.8808609	0.8335452	0.895379	0.82318604	0.7215322	0.7664073	0.7664073
UDP-glucosyltransferase	1.2114421	1.2207806	1.3743871	0.8096741	0.8909051	0.8601678	1.113022	0.895972	0.4044465	0.8613544	0.8258987	0.8258987	0.8258987	0.8258987
UDP-glucosyltransferase	0.8425634	0.8004274	0.93197607	0.8022995	1.0301288	1.304937	1.0141132	0.8808609	0.8335452	0.895379	0.82318604	0.7215322	0.7664073	0.7664073
Glutathione S-transferase P1	0.9735552	0.9936215	1.1769943	0.86482483	0.8799345	0.8693477	0.8972232	0.8343066	0.8651015	0.2006315	0.2006315	0.2006315	0.2006315	0.2006315
Disulfide isomerase related protein (ERG2)	0.9486957	1.1137682	1.0323232	0.8366091	1.1500693	1.1043978	0.8962655	1.0750332	0.8134023	0.877943	0.877943	0.877943	0.877943	0.877943
Ribosomal protein L13	0.8645647	0.8010336	0.9668674	0.778937	0.9248778	0.8390549	1.5535619	1.0986421	0.90400785	0.87861984	0.7586467	0.7586467	0.7586467	0.7586467
Centropodirin	0.8645647	0.8010336	0.9668674	0.778937	0.9248778	0.8390549	1.5535619	1.0986421	0.90400785	0.87861984	0.7586467	0.7586467	0.7586467	0.7586467

Phase-1 RCT-1-3	1.0014223	0.9760163	0.9975413	0.9053674	0.9458076	0.7056159	0.95538615	1.0768966	1.085428	1.0432041	1.0488872	1.0533985
Strain beta (Fetb)	0.8387632	1.1367823	0.8904803	1.5560211	1.0576841	1.0576841	1.0576841	1.0576841	1.0576841	1.0576841	1.0576841	1.0576841
3-Hydroxybutyrate dehydrogenase	0.9330011	0.89684	0.8416035	1.1010541	1.1637712	1.1637712	1.1637712	1.1637712	1.1637712	1.1637712	1.1637712	1.1637712
Carbonic anhydrase III, sequence 2	0.6560076	1.0276418	0.6577825	1.2548918	0.9143923	0.9143923	0.9143923	0.9143923	0.9143923	0.9143923	0.9143923	0.9143923
Phase-1 RCT-1-10	0.9536274	1.0270253	1.0144512	1.0028653	1.0781436	1.0781436	1.0781436	1.0781436	1.0781436	1.0781436	1.0781436	1.0781436
Alpha-2-microglobulin	0.5414904	1.0234103	0.9643646	1.0810755	0.9868138	0.9868138	0.9868138	0.9868138	0.9868138	0.9868138	0.9868138	0.9868138
Dynamin-1 (P100)	0.9495588	0.9167283	0.9518365	0.9847293	1.0000803	1.0000803	1.0000803	1.0000803	1.0000803	1.0000803	1.0000803	1.0000803
Uryl oxidase	0.7465498	0.7393094	0.8006187	1.033047	1.033047	1.033047	1.033047	1.033047	1.033047	1.033047	1.033047	1.033047
Phase-1 RCT-252	0.9457137	0.846888	0.9855887	0.8357446	1.1241953	1.1241953	1.1241953	1.1241953	1.1241953	1.1241953	1.1241953	1.1241953
Phase-1 RCT-259	0.935143	1.034607	0.9855887	0.8357446	1.1241953	1.1241953	1.1241953	1.1241953	1.1241953	1.1241953	1.1241953	1.1241953
Phase-1 RCT-278	0.9401780	0.9443274	1.08012	0.9859847	1.068574	1.068574	1.068574	1.068574	1.068574	1.068574	1.068574	1.068574
Phase-1 RCT-42	1.0917215	1.0256523	1.0778472	1.0522897	1.0372651	1.0372651	1.0372651	1.0372651	1.0372651	1.0372651	1.0372651	1.0372651
Phase-1 RCT-25	1.0447268	0.9358976	1.0071693	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002
Cytidine P450 2C11	0.9176945	0.9358976	1.0071693	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002
Phase-1 RCT-202	0.8526706	0.9358976	1.0071693	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002	1.0778002
Complement factor I (CFI)	0.80893874	0.7502419	0.9113417	1.0671925	1.0671925	1.0671925	1.0671925	1.0671925	1.0671925	1.0671925	1.0671925	1.0671925
Proliferating cell nuclear antigen gene	0.8925168	0.8918004	0.91638017	0.8909008	0.8601744	0.8601744	0.8601744	0.8601744	0.8601744	0.8601744	0.8601744	0.8601744
Activating transcription factor 3	1.452152	1.4227138	1.3566269	1.1027302	0.9054137	0.9054137	0.9054137	0.9054137	0.9054137	0.9054137	0.9054137	0.9054137
Focal adhesion kinase (p125FAK)	1.0515311	0.9712277	1.0951595	1.0520252	1.0776697	1.0776697	1.0776697	1.0776697	1.0776697	1.0776697	1.0776697	1.0776697
Phase-1 RCT-289	1.1787131	1.118198	1.1143155	1.0922341	1.0922341	1.0922341	1.0922341	1.0922341	1.0922341	1.0922341	1.0922341	1.0922341
Phase-1 RCT-259	0.9327814	0.9356143	1.126447	0.8922884	0.8614874	0.8614874	0.8614874	0.8614874	0.8614874	0.8614874	0.8614874	0.8614874
Iron-responsive element-binding protein	0.95498	0.916808	1.126447	0.8922884	0.8614874	0.8614874	0.8614874	0.8614874	0.8614874	0.8614874	0.8614874	0.8614874
MHC class II antigen RT1.A10 alpha-chain	1.9849532	0.9352077	0.9708497	1.0202947	0.9604875	0.9604875	0.9604875	0.9604875	0.9604875	0.9604875	0.9604875	0.9604875
Myf self-transferrin	1.0401967	0.9352077	0.9708497	1.0202947	0.9604875	0.9604875	0.9604875	0.9604875	0.9604875	0.9604875	0.9604875	0.9604875
Phase-1 RCT-171	1.0577701	1.0228454	1.1399226	0.9623505	0.9623505	0.9623505	0.9623505	0.9623505	0.9623505	0.9623505	0.9623505	0.9623505
Phase-1 RCT-83	1.1011877	0.979487	0.9875425	1.097704	1.097704	1.097704	1.097704	1.097704	1.097704	1.097704	1.097704	1.097704
Colony-stimulating factor-1	0.8978297	0.7864513	0.9875425	1.097704	1.097704	1.097704	1.097704	1.097704	1.097704	1.097704	1.097704	1.097704
N-cadherin	1.06349	1.1971114	1.049775	1.207848	0.9605577	0.9605577	0.9605577	0.9605577	0.9605577	0.9605577	0.9605577	0.9605577
Phase-1 RCT-42	1.0655108	1.049775	1.049775	1.207848	0.9605577	0.9605577	0.9605577	0.9605577	0.9605577	0.9605577	0.9605577	0.9605577
Phase-1 RCT-22	1.1443768	1.1088741	0.9678464	1.0034417	0.9886887	0.9886887	0.9886887	0.9886887	0.9886887	0.9886887	0.9886887	0.9886887
AT-3	0.8807899	0.855324	0.9678464	1.0034417	0.9886887	0.9886887	0.9886887	0.9886887	0.9886887	0.9886887	0.9886887	0.9886887
Phase-1 RCT-18	0.9808515	1.0350194	0.987807	0.8994232	1.0059555	1.0059555	1.0059555	1.0059555	1.0059555	1.0059555	1.0059555	1.0059555
Phase-1 RCT-123	0.9355506	1.0066552	0.97241175	0.8785397	1.0819108	1.0819108	1.0819108	1.0819108	1.0819108	1.0819108	1.0819108	1.0819108
Phase-1 RCT-28	1.0347182	0.9654326	1.0463791	1.048279	1.048279	1.048279	1.048279	1.048279	1.048279	1.048279	1.048279	1.048279
Equilibrative nucleoside/nucleosine-canaline nucleoside transporter	0.7097083	0.824417	0.83673275	1.0334295	0.945706	0.945706	0.945706	0.945706	0.945706	0.945706	0.945706	0.945706
Glucose transporter 2	0.9883814	1.087126	1.0397397	0.8200567	0.8401108	0.8401108	0.8401108	0.8401108	0.8401108	0.8401108	0.8401108	0.8401108
Multidrug resistant protein-2	0.9320208	0.958215	0.9754709	1.142536	0.96574855	0.96574855	0.96574855	0.96574855	0.96574855	0.96574855	0.96574855	0.96574855
Multidrug resistant protein-1	1.0060006	0.9477808	0.9409375	1.1659911	1.0823314	1.0823314	1.0823314	1.0823314	1.0823314	1.0823314	1.0823314	1.0823314
Phosphatidylcholine-binding protein	1.6714538	1.4105949	1.4396632	1.1940663	1.388811	1.388811	1.388811	1.388811	1.388811	1.388811	1.388811	1.388811
Phase-1 RCT-180	1.4900226	1.210958	1.1370382	0.9192753	0.9371897	0.9371897	0.9371897	0.9371897	0.9371897	0.9371897	0.9371897	0.9371897
Integrin beta-4	1.1596399	1.0783008	0.9689406	1.032484	1.068945	1.068945	1.068945	1.068945	1.068945	1.068945	1.068945	1.068945
Endogenous retroviral sequence, 5' and 3' LTR	1.1465179	1.1728069	0.9741122	1.050378	0.9541477	0.9541477	0.9541477	0.9541477	0.9541477	0.9541477	0.9541477	0.9541477
Phase-1 RCT-53	0.9485134	1.030138	0.930918	0.8786163	1.0265226	1.0265226	1.0265226	1.0265226	1.0265226	1.0265226	1.0265226	1.0265226
Phase-1 RCT-54	0.9728523	1.059007	0.965202	0.96590365	1.0065995	1.0065995	1.0065995	1.0065995	1.0065995	1.0065995	1.0065995	1.0065995
Phase-1 RCT-240	0.8564497	0.8045271	0.8492144	0.8594738	0.8927455	0.8927455	0.8927455	0.8927455	0.8927455	0.8927455	0.8927455	0.8927455
Oscoplin	0.8359486	0.94046025	0.98833	1.4527178	1.1987701	1.1987701	1.1987701	1.1987701	1.1987701	1.1987701	1.1987701	1.1987701
Organic anion transporting polypeptide 1	1.037716	0.9338402	1.0770078	1.0657802	1.0394284	1.0394284	1.0394284	1.0394284	1.0394284	1.0394284	1.0394284	1.0394284
Tissue factor pathway inhibitor	0.9348168	0.9515985	1.019878	0.9889328	0.95718147	0.95718147	0.95718147	0.95718147	0.95718147	0.95718147	0.95718147	0.95718147
Cylin-dependent kinase 4 inhibitor P27kip1 (cdk2)	1.0704892	1.0288818	1.0546163	1.1800868	1.2507825	1.2507825	1.2507825	1.2507825	1.2507825	1.2507825	1.2507825	1.2507825
Phospholipase D	1.028109	0.9748953	0.97604165	1.4552564	0.92429435	0.92429435	0.92429435	0.92429435	0.92429435	0.92429435	0.92429435	0.92429435
Phase-1 RCT-39	0.9418602	0.8954616	0.9708232	1.0786532	1.0345397	1.0345397	1.0345397	1.0345397	1.0345397	1.0345397	1.0345397	1.0345397
Phase-1 RCT-259	1.0727206	1.0463387	1.069595	0.92074704	0.9639406	0.9639406	0.9639406	0.9639406	0.9639406	0.9639406	0.9639406	0.9639406
Phase-1 RCT-113	1.0117688	1.0717158	0.9663092	1.1797516	1.0571035	1.0571035	1.0571035	1.0571035	1.0571035	1.0571035	1.0571035	1.0571035
Adrenaline nucleoside translocator 1	0.95132875	1.0517942	0.9765961	0.8939858	0.9586182	0.9586182	0.9586182	0.9586182	0.9586182	0.9586182	0.9586182	0.9586182
Alpha-1 acid glycoprotein	0.7236136	0.79376173	0.6096726	1.0293241	1.2873895	1.2873895	1.2873895	1.2873895	1.2873895	1.2873895	1.2873895	1.2873895
MHC class II antigen RT1.B.4 beta-chain	0.7423635	1.303292	0.70395075	0.8145193	0.71835595	0.71835595	0.71835595	0.71835595	0.71835595	0.71835595	0.71835595	0.71835595

Organic cation transporter 3	1.0395744	0.8265486	1.0437721	0.9157688	0.8959623	0.94027986	0.8797054	1.0503684	0.7381857	0.7847455	0.9302193	0.7778432	0.7124117	0.74220127
Hypoxia-inducible factor 1 alpha	0.97115225	1.0761705	0.987811	0.84135684	0.9028668	0.8856834	0.9123274	0.7595913	0.9171631	1.3738914	1.0210142	1.0652064	1.0046371	1.3728383
Phase-1 RCT-143	1.1670768	1.0760913	1.0805598	0.9936593	1.090913	1.0237621	1.1834433	1.0959702	1.0969366	1.1201894	0.9802631	1.0218472	0.7814511	0.7808286
Phase-1 RCT-145	1.0341383	1.0043303	1.0718982	0.90174925	0.8003342	0.98181313	0.98779786	1.1390511	0.99782084	0.9675647	0.9240548	0.8745861	0.67892325	0.80510785
Matrix dehydrogenase, cytosolic	1.2164649	0.8980778	0.9965174	0.950389	1.054283	1.0413637	1.1542888	0.87573236	0.76650383	0.7587715	0.8448526	0.89532704	0.67892325	0.6721959
U30 element	0.4330402	0.9763073	0.953798	1.1310327	1.1750166	1.6235977	0.5213355	1.259401	1.6094284	1.4049947	1.3315424	0.90617067	0.70452714	0.6721959
Phase-1 RCT-189	1.1003511	1.2431216	1.1571995	0.9681927	1.2048218	1.1886743	0.92811066	0.8407358	1.0323385	0.6819687	0.9409412	0.7076506	0.9701166	1.0124833
Alpha-fetoprotein	0.9765444	0.9954204	0.9531919	0.8377713	0.9797102	0.8889919	0.84013027	0.89044824	0.8660017	0.96591659	0.9102943	0.9434062	0.9701166	1.0124833
Calgranulin B	0.7602408	0.8779746	0.9033087	1.0031458	1.1137884	1.171783	0.84013027	0.89044824	0.8660017	0.96591659	0.9102943	0.9434062	0.9701166	1.0124833
Tissue plasminogen activator	0.96201944	1.0612655	0.966337	1.004016	0.990334	0.9592304	0.8831444	0.8720551	0.9371789	0.7637527	0.81024	0.80762145	1.0562389	1.0013584
Phase-1 RCT-195	0.94120276	0.8881934	0.83143207	0.8448891	1.044144	1.00073	0.8703577	0.94108655	0.9414504	0.9041836	0.9411082	0.80526897	0.7771954	0.96061795
Liver fatty acid binding protein	0.47514135	0.7137624	1.0848109	1.10778	1.0355168	1.1747811	0.8133523	0.7145624	0.9084348	0.5749722	0.75059735	0.49314609	0.7382631	0.5462707
Alpha-1 microglobulin/bikunin precursor (Arbp)	0.9838367	0.9862204	0.95371544	1.0768598	0.91364306	0.96779475	1.0169681	0.92761895	1.0105559	0.7380007	0.8753817	0.67783244	0.6957207	0.7510872
Phase-1 RCT-294	1.009847	1.0053028	0.95371544	1.0768598	0.91364306	0.96779475	1.0169681	0.92761895	1.0105559	0.7380007	0.8753817	0.67783244	0.6957207	0.7510872
Phase-1 RCT-151	1.0931416	1.0926159	1.1434957	0.9481844	0.9968431	0.96779475	1.0169681	0.92761895	1.0105559	0.7380007	0.8753817	0.67783244	0.6957207	0.7510872
Phase-1 RCT-158	0.9977263	1.0269024	1.078371	0.9029837	0.95372534	0.96779475	1.0169681	0.92761895	1.0105559	0.7380007	0.8753817	0.67783244	0.6957207	0.7510872
Phase-1 RCT-221	1.0448207	1.0287507	0.9411498	0.9743303	1.1178569	1.1038841	1.1431226	0.9868993	1.0657519	1.1701856	0.9833684	1.1363463	1.3519889	1.4717504
Phase-1 RCT-235	1.0160434	1.0061693	0.905833	0.88113844	1.0048981	1.1032361	1.1431226	0.9868993	1.0657519	1.1701856	0.9833684	1.1363463	1.3519889	1.4717504
Cytosolic anion transporter 3	0.95224386	0.9260157	0.9190086	1.555274	0.9332466	1.2331324	0.98902977	0.8688913	0.99831504	0.9226837	0.82013806	1.4101959	1.564284	1.6530691
Matrix metalloproteinase-1	0.7543654	0.74912508	0.7469557	0.955909	1.0374777	0.93226147	0.7518623	1.0037078	0.99831504	0.9226837	0.82013806	1.4101959	1.564284	1.6530691
Urinary protein 2 precursor	0.5702739	0.6275845	0.81523595	0.91349703	0.9045415	0.9782126	0.7398791	0.8248716	0.93796283	0.45871967	0.5174911	0.45316155	0.40311858	0.42599732
Phase-1 RCT-212	0.8336432	0.8106836	0.8402128	0.9507751	0.9106812	1.0536751	0.8627747	1.0068879	1.0500882	1.0894178	1.1343453	1.120727	1.0167435	0.8820568

(1) Gene expression data for 8 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 18).

(2) Compound and dose abbreviations as in Table 1.

(3) Individual animal number

(4) Liver inflammation classification for compound-dose group at 72 h: yes-nec, necrosis observed; yes-both, necrosis with inflammation observed; no, no histopathology observed

(5) Predictive gene (as in Table 18 and as included in Table 26)

Table 28

Table 28. Expression Data for 6 Hour Timepoint (1)													
Compound-Dose (2)	APAP 1000	AMPB 5	AMPB 5	AMPB 5	AMPB 5	AMPB 20	AMPB 20	AMPB 20	AMPB 20	AMPB 20	AMPB 20	AMPB 20	AMPB 20
Animal Number (3)	yes-ncr	no	no	no	no	no	no	no	no	no	no	no	no
Liver Toxicity Inflammation Classification (4)	yes-ncr	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	yes-ncr	no	no	no	no	no	no	no	no	no	no	no	no
Insulin-like growth factor binding protein 1	25.653077	1.142269	1.169325	0.868107	0.987007	0.987007	0.987007	0.987007	0.987007	0.987007	0.987007	0.987007	0.987007
Gad65	16.526773	1.281554	2.22445	1.282723	1.282723	1.282723	1.282723	1.282723	1.282723	1.282723	1.282723	1.282723	1.282723
Gad67	13.280828	0.965575	1.00209	1.297394	1.054032	0.905387	0.905387	0.905387	0.905387	0.905387	0.905387	0.905387	0.905387
Myk	3.263189	0.871212	0.741624	0.81958425	0.868602	0.5280728	0.948735	1.3648316	1.5692705	1.6113811	1.5692705	1.6113811	1.5692705
Calpastatin L sequence 2	3.243189	1.8617501	1.657455	1.1471732	0.9683717	1.807703	0.9417028	1.850434	1.4507111	1.5656997	1.377058	1.3595553	2.4141934
Glucagon-like peptide 1	23.974522	1.019082	1.809151	1.247822	0.98133456	1.0329376	1.0329376	1.0329376	1.0329376	1.0329376	1.0329376	1.0329376	1.0329376
Glucagon-like peptide 2	3.1460281	1.0242515	1.0495168	0.80946167	1.0289571	0.7603701	0.7603701	0.7603701	0.7603701	0.7603701	0.7603701	0.7603701	0.7603701
Phase-1 RCT-109	1.0646009	0.73289025	0.8006942	0.58731997	0.6370621	0.6370621	0.6370621	0.6370621	0.6370621	0.6370621	0.6370621	0.6370621	0.6370621
Phase-1 RCT-111	2.5245692	0.80763206	0.8004414	0.60358864	0.90741597	1.198802	1.198802	1.198802	1.198802	1.198802	1.198802	1.198802	1.198802
AggR polypeptide (base)	0.6174694	1.4323952	2.0118813	1.216729	1.2791397	1.4216169	1.4216169	1.4216169	1.4216169	1.4216169	1.4216169	1.4216169	1.4216169
DNA polymerase beta	0.96510595	0.8738756	0.87056039	0.654667	0.6161989	0.4926781	0.4926781	0.4926781	0.4926781	0.4926781	0.4926781	0.4926781	0.4926781
Phase-1 RCT-103	0.96510595	2.0220187	3.4131818	2.265135	1.5076517	1.852723	1.784772	1.784772	1.784772	1.784772	1.784772	1.784772	1.784772
Ribosomal protein S9	0.8657466	0.9622093	1.1909779	0.943239	1.2474887	0.9278592	0.966586	0.966586	0.966586	0.966586	0.966586	0.966586	0.966586
Phase-1 RCT-114	1.1825589	0.9622093	1.1909779	0.943239	1.2474887	0.9278592	0.966586	0.966586	0.966586	0.966586	0.966586	0.966586	0.966586
Phase-1 RCT-15	2.381824	1.5342574	1.460875	1.0381784	1.275582	1.165384	0.7333395	1.595185	1.9458218	2.3901346	2.08598	1.804372	3.7290175
Macrophage inflammatory protein-2 alpha	2.937391	1.3256535	1.9178059	1.510743	1.593325	1.0535439	1.1626041	1.444545	1.696376	2.2328133	2.3657834	1.9240533	1.0716646
NGF-inhibitor anti-proliferative putative secreted protein (PC2)	4.9241757	0.8824803	0.9914199	0.8134917	1.129344	0.8174433	1.042277	1.9652187	1.914832	2.2651303	3.7656817	3.0659327	8.955394
Phase-1 RCT-191	1.5642844	1.1690867	1.0754207	1.2632176	0.914472	0.8019756	2.5641765	2.5641765	2.5641765	2.5641765	2.5641765	2.5641765	2.5641765
Phase-1 RCT-63	1.5092938	1.3564237	1.4695262	1.5653467	1.3824797	1.258431	1.054793	0.9076435	1.0368135	1.0368135	1.0368135	1.0368135	1.0368135
CytD3	0.6710636	3.0949068	3.1237872	2.247551	1.3581053	1.2595819	1.082252	1.1535355	1.118111	1.0494864	0.8940247	0.83316787	0.9251967
Phase-1 RCT-108	1.6597531	0.97041476	0.81303354	0.8038865	0.6483832	0.6090045	0.87395374	0.930494	0.95574033	1.0117502	0.8940247	0.83316787	0.9251967
Phase-1 RCT-86	0.6524483	1.677726	1.8432947	1.5905152	1.5834309	2.2707508	2.4113884	1.719976	1.719976	1.719976	1.719976	1.719976	1.719976
Phase-1 RCT-75	1.0228361	1.4617908	1.5860312	0.81194057	0.8759757	0.7811265	0.8447222	1.8957609	1.9015528	2.4556236	1.6907884	1.4510689	1.3323518
Acetyl-CoA carboxylase	0.95219468	0.94853515	0.7073292	0.69057804	0.91328997	0.9811739	0.9811739	0.9811739	0.9811739	0.9811739	0.9811739	0.9811739	0.9811739
Phase-1 RCT-95	0.8929165	0.82524246	0.7073292	0.69057804	0.91328997	0.9811739	0.9811739	0.9811739	0.9811739	0.9811739	0.9811739	0.9811739	0.9811739
Cystatin C	1.1167173	0.9455893	0.7127085	0.801652	0.6432302	0.7984036	0.864422	1.0355024	0.9943428	1.032824	1.032824	1.032824	1.032824
Phase-1 RCT-49	0.9459361	1.0768715	1.3278282	1.0198898	1.3240451	1.1265556	1.026537	1.0374554	1.0374554	1.0374554	1.0374554	1.0374554	1.0374554
Phase-1 RCT-9	0.9627447	1.0768715	1.3278282	1.0198898	1.3240451	1.1265556	1.026537	1.0374554	1.0374554	1.0374554	1.0374554	1.0374554	1.0374554
Phase-1 RCT-156	0.9916233	0.9571776	0.763073	0.663888	0.6301033	1.1223677	0.9838869	0.89414245	1.4605911	1.4605911	1.4605911	1.4605911	1.4605911
Phase-1 RCT-127	0.87312906	1.0991471	1.535681	0.910275	0.763073	0.663888	0.6301033	1.1223677	0.9838869	0.89414245	1.4605911	1.4605911	1.4605911
Macrophage inflammatory protein-1 alpha	5.618094	1.0991471	1.535681	0.910275	0.763073	0.663888	0.6301033	1.1223677	0.9838869	0.89414245	1.4605911	1.4605911	1.4605911
Zinc finger protein	1.6690646	1.014009	1.551578	1.405963	0.9424963	0.8613815	1.006937	1.5926666	1.6771666	1.6771666	1.6771666	1.6771666	1.6771666
Phase-1 RCT-73	7.303237	0.839081	0.890242	0.7679603	0.6494161	0.98222674	0.9058405	1.4017214	1.6696239	2.395125	3.3995178	1.7314243	4.9114468
Glutamine synthetase	0.8148349	0.9594988	0.9044674	0.9068982	0.9257629	1.1669708	0.9054327	1.0115389	0.9643959	0.9584789	0.9231306	1.488204	0.8406612
Cab-binding protein	0.30123132	1.8060124	1.8759016	1.4035244	0.92196583	1.4577339	1.3041193	1.7892787	0.992053	0.70148104	1.2314184	1.2614123	2.1154976
Phase-1 RCT-42	0.44679454	1.7961113	2.2868807	1.581133	1.2151393	1.1341035	1.0693563	0.93672803	1.0256457	0.82505625	0.9345675	0.66073614	0.86817905
Phase-1 RCT-50	14.282213	0.9815138	1.0721633	1.2027814	1.1686648	0.9138953	0.9138953	0.9138953	0.9138953	0.9138953	0.9138953	0.9138953	0.9138953
Elongation factor-1 alpha	8.078297	0.8531526	0.9168466	1.004528	1.0540372	0.8991664	0.8110867	0.76339287	1.3842507	1.4737176	1.5532568	2.07624	1.4672665
Integrin beta1	0.8222118	2.1459073	2.2840316	1.219866	1.0976102	1.4771649	0.99869495	1.942727	2.3832905	2.7414238	2.815239	1.8533687	4.19423
Insulin-like growth factor binding protein 5	2.9382277	1.2541741	1.1627322	1.073222	1.355393	1.040446	0.8110867	0.76339287	1.3842507	1.4737176	1.5532568	2.07624	1.4672665
Phase-1 RCT-59	3.3207152	0.94539837	0.9695351	1.0126515	0.9857324	1.0434306	0.9149551	1.8265299	0.8812668	0.7325213	0.63317884	0.4832858	0.572282
Phase-1 RCT-76	1.0010636	0.83744854	0.9550596	0.8735067	0.82459743	0.5074733	0.8688854	0.8557609	0.89486444	0.86815975	0.8011896	0.7104166	0.9105007
Phase-1 RCT-11	0.5127331	1.2490302	2.2409535	1.1042843	0.60359335	0.7823823	1.7004517	0.7178989	0.8004875	0.7922146	0.7325213	0.63317884	0.4832858
Phase-1 RCT-12	1.1950366	0.83383757	0.7970162	1.0271777	0.888056	0.7907988	0.9718805	0.90055534	1.232737	1.0540543	0.9663391	0.8243491	0.5683391
Phase-1 RCT-214	0.50386786	0.8298774	0.8215055	0.7307072	0.6947283	0.9736008	0.9685546	0.9685546	0.9685546	0.9685546	0.9685546	0.9685546	0.9685546
Phase-1 RCT-112	1.5571917	0.8911466	0.7516524	0.7907786	0.9857769	0.72114587	0.72114587	0.72114587	0.72114587	0.72114587	0.72114587	0.72114587	0.72114587
Thymidine synthase	0.9503749	1.621561	1.7377378	1.048442	1.0135511	0.9252456	0.98823535	0.9671611	0.7485958	0.9671611	0.7485958	0.9671611	0.7485958
Phase-1 RCT-19	0.731854	0.8753893	0.8616391	0.93305057	0.8887697	1.125598	1.1619309	0.87284835	1.03411318	0.8695393	0.7960778	0.6844906	0.77423686
Nucleosome assembly protein	0.52910815	1.057137	0.739698	1.3541798	0.94156726	0.92910516	0.93411318	0.8695393	0.7960778	0.6844906	0.77423686	0.77423686	0.77423686
Cholesterol 7-alpha-hydroxylase (p450 VII)	1.324724	1.079516	1.112702	0.92837816	1.190175	0.8947728	1.1497181	2.162409	0.84933763	0.95361674	0.9726298	1.051366	1.2670368
Vesicular monoamine transporter (VMAT)	1.5530449	0.9058288	0.9123556	0.9673954	0.99834594	0.79182553	1.1246201	0.83838875	0.95361674	0.9726298	1.051366	1.2670368	0.9120135
Phase-1 RCT-260													

Table 28

Phase-1 RCT-32	0.92351473	0.93055335	0.9770282	0.935485	0.94740075	0.9943736	1.0028572	1.067485	1.098124	1.1153299	1.0289225	1.0761375	1.2074234	1.4123521
Proteinase D	1.3250884	1.1100702	1.2460089	1.327167	0.90780334	1.0353588	1.0476867	0.95914206	1.0797318	1.060634	1.1059566	1.1065124	0.9829966	0.9829966
Proteinase D	0.8758605	1.0531718	1.0171766	1.201582	0.9210414	1.00656585	1.0674612	0.9891876	1.097398	1.0061261	0.9629749	1.0342474	0.9600742	0.8997161
Phase-1 RCT-62	1.249107	0.83697857	0.856136	0.6565326	0.8383346	0.8374728	0.8956192	0.8018519	0.98005046	0.9676718	0.8653934	1.0532184	0.93061525	0.9182207
Matrix F1G	0.7892468	0.8112303	0.9354905	0.422414	0.85330756	0.5318337	0.844102	0.8738388	0.93827313	1.1847358	0.8317856	1.0881884	0.54589975	0.9182408
Phase-1 RCT-164	0.8690284	1.020684	0.9359424	0.8519197	0.81340655	1.048840	0.7691912	0.7691912	1.3426528	1.5800686	1.4274533	1.320774	1.5037712	1.0231233
Phase-1 RCT-168	0.4552028	1.137683	0.8593924	0.8519197	0.81340655	1.048840	0.7691912	0.7691912	1.3426528	1.5800686	1.4274533	1.320774	1.5037712	1.0231233
Phase-1 RCT-119	2.119288	0.81657304	1.0116212	1.1465339	0.7236704	0.8620665	0.8773031	0.868115	0.741209	0.85318475	0.8015473	0.82199575	0.9752264	0.9752264
Carbonic anhydrase II	0.8003556	0.940738	1.0116212	1.1465339	0.7236704	0.8620665	0.8773031	0.868115	0.741209	0.85318475	0.8015473	0.82199575	0.9752264	0.9752264
Trypan blue	0.8003556	0.940738	1.0116212	1.1465339	0.7236704	0.8620665	0.8773031	0.868115	0.741209	0.85318475	0.8015473	0.82199575	0.9752264	0.9752264
Phase-1 RCT-71	4.228915	0.8593924	0.816696	0.8483236	1.6588723	1.0987634	1.21671374	1.9186268	1.5359367	1.8494948	1.1742202	1.4441302	1.2284837	1.2284837
Phase-1 RCT-179	1.5035985	1.7008628	0.8677937	0.9350957	0.77294075	0.8653157	0.967033	1.07702628	0.9332637	0.5713367	0.6543434	0.4701721	0.70179816	0.70179816
Phase-1 RCT-161	1.4578211	0.85948475	0.8677937	0.9350957	0.77294075	0.8653157	0.967033	1.07702628	0.9332637	0.5713367	0.6543434	0.4701721	0.70179816	0.70179816
Phase-1 RCT-207	9.326655	0.87653466	0.8677937	0.9350957	0.77294075	0.8653157	0.967033	1.07702628	0.9332637	0.5713367	0.6543434	0.4701721	0.70179816	0.70179816
Phase-1 RCT-144	1.519492	1.3529677	1.6870812	1.57457	1.159573	1.187663	1.3003573	1.265471	2.5976505	2.786812	1.138384	1.9528727	2.8550112	1.0017062
Phase-1 RCT-225	1.284452	0.67236858	0.7486572	0.67035395	1.187663	1.3003573	1.265471	2.5976505	2.786812	1.138384	1.9528727	2.8550112	1.0017062	1.0017062
Cytochrome P450 2E1	1.3281863	1.2500467	1.2828176	1.2680922	0.7665138	1.1402076	0.8924235	0.9256866	0.6214033	0.8085093	0.7393297	0.7780745	0.9444202	0.716684
UD-1	2.0650755	0.98604183	0.90284657	1.0505687	0.89592556	1.022515	1.184324	1.4043199	1.588246	1.985564	1.1384571	0.9200273	1.2681404	1.0534443
Thioredoxin-1 (Trx1)	1.0071559	1.0304691	1.2183178	0.85202676	1.1992112	0.78047615	1.184324	1.4043199	1.588246	1.985564	1.1384571	0.9200273	1.2681404	1.0534443
Carbonic anhydrase III	0.34521945	0.8573788	0.82407	0.4570072	0.2938376	1.126509	0.871356	0.2775637	0.3887468	0.8352018	0.24333547	0.2678257	0.2678257	0.2678257
Phase-1 RCT-140	1.284459	0.8691804	0.9277087	0.841503	0.9453038	0.860777	0.8238689	0.8494324	0.9220971	0.871181	0.9538477	0.86527614	1.0652868	0.839081
Complement component C3	0.2606647	2.3615653	2.3595727	1.3407848	1.0338022	1.0531083	1.5822382	0.7105795	0.788949	0.7393297	0.3734688	0.6550082	1.0230076	0.8957026
Glucokinase	0.5939342	0.96954274	0.9503576	1.2565534	0.7507696	1.0991036	0.842023	1.2714854	1.3804253	1.5673945	1.2336594	1.5443233	1.3351859	0.9755664
Phase-1 RCT-173	1.1119214	0.8128948	0.8440108	0.9398412	0.8757276	0.8265654	0.8736271	0.75212345	0.7376244	0.4717007	0.8507773	0.82752545	0.71132334	0.86181836
3-methylglutamate DNA glycosylase	1.1915566	1.0075295	0.9790894	1.254566	1.0040635	1.0162556	0.9408051	0.9300058	0.9789965	1.0272598	1.0728808	1.0733667	0.9195268	0.83463196
Periodic acid-Schiff reaction	0.58219266	1.4468905	1.4581461	1.1011746	1.0035414	1.412806	0.8985986	0.7165074	1.4914567	1.4491429	0.99829535	1.2787249	1.2738726	1.2738726
Phase-1 RCT-40	0.30357046	0.9200765	0.95537245	0.62950134	0.8418249	0.8418249	0.7880598	0.9231428	0.8862413	0.9394774	0.7965719	0.83918595	0.84008646	1.0950506
Senescence marker protein-30	0.20655118	1.2095267	1.5239292	0.8273349	0.86917855	1.223318	1.1814741	0.66897676	0.6076436	0.44403762	0.31511304	0.5811751	0.56558474	0.8990287
Cytin G	3.6007186	1.5188445	2.003763	1.3158327	1.8472654	1.0757949	1.2288848	2.7758043	1.8117791	1.9563093	1.618763	1.471769	3.109558	0.9288543
Melanosomal-associated antigen ME491	0.9274689	0.9772607	1.065368	1.1845416	0.8103044	1.117692	1.2920252	0.9527626	1.3121358	0.925537	1.04342	1.0514648	0.97124714	1.0606025
Phase-1 RCT-28	1.2461439	0.8329049	0.9609057	1.0794252	0.8200957	0.8604833	1.0428532	0.90101254	0.9679776	1.0647976	1.0541203	0.92801434	1.0606025	1.0606025
Engrain	0.84453843	0.7474308	0.7654446	0.7659584	0.84003784	0.695857	0.8571429	1.1213508	1.2493126	1.2951604	1.1256912	1.0940326	1.2757188	0.86147507
Alcohol dehydrogenase 1	0.27893522	0.90028444	0.54155494	0.657853	0.8503465	0.8770221	0.5854148	0.4792244	0.4509804	0.399106	0.46704257	0.6969736	0.78147507	0.78147507
Stem cell factor	0.3551267	1.0001287	1.1375046	0.92355324	1.0280681	0.9584123	1.428571	0.9192463	1.0276536	0.8536892	0.74617	1.0709616	0.68715244	1.1523533
JNK1 stress activated protein kinase	1.8231218	0.8780423	1.035965	1.0551534	1.1371723	1.1371723	1.407282	0.9027687	0.9242438	0.86718558	0.8890236	0.9594695	0.94674426	0.9780476
Protein tyrosine phosphatase alpha	0.74972405	0.7550977	0.8686116	1.027643	0.91201466	1.281652	0.99275845	0.9317128	0.846477	0.8554151	0.7658817	0.7616837	0.822519	1.052472
DNA topoisomerase I	1.0204953	1.582841	2.5777217	1.7114988	1.3161446	1.383181	1.058028	1.197718	1.057068	1.167189	1.2701374	1.1044236	1.2518008	1.215034
Phase-1 RCT-55	0.3075698	2.351815	2.4081672	1.3993541	1.0814594	1.1225296	1.5057071	1.618333	1.4717432	1.285898	1.238216	1.2650763	1.4154758	0.9657008
Ubiquitin conjugating enzyme (RAD 6 homologue)	0.3075698	2.351815	2.4081672	1.3993541	1.0814594	1.1225296	1.5057071	1.618333	1.4717432	1.285898	1.238216	1.2650763	1.4154758	0.9657008
DNA topoisomerase I	1.0204953	1.582841	2.5777217	1.7114988	1.3161446	1.383181	1.058028	1.197718	1.057068	1.167189	1.2701374	1.1044236	1.2518008	1.215034
Phase-1 RCT-280	0.9856027	1.0481311	1.1514975	0.7430288	0.9837055	1.0748652	1.0313078	0.7627934	0.74441979	0.7454004	0.83244213	0.8521087	0.7853184	1.0345894
Superoxide dismutase Mn	2.2801545	2.8453303	6.6314874	2.055473	5.7094407	0.8716566	1.326808	1.2504618	1.0680743	0.9991867	0.8324785	0.7568987	1.1502824	1.035352
Beta-tubulin, class I	0.7217015	1.0967042	1.1779519	0.958409	1.2239285	1.1200988	0.7428573	3.0896769	3.3734763	3.1595273	2.6005182	2.2041762	4.0310293	1.0638687
Cardiomyocyte phosphatase I	0.7217015	1.0967042	1.1779519	0.958409	1.2239285	1.1200988	0.7428573	3.0896769	3.3734763	3.1595273	2.6005182	2.2041762	4.0310293	1.0638687
Dicarbonyl phosphatase I	0.9434735	1.0733553	0.70330334	0.7273774	0.9206715	0.83861805	1.0685323	1.1384241	1.1563531	1.046597	0.984165	1.0698878	1.0294501	0.7771434
Phase-1 RCT-141	3.1235585	2.7848215	4.304072	1.9742936	1.7879631	0.9200452	2.005483	0.9237409	1.2570283	1.4733362	2.565831	1.5281273	4.362295	0.971204
14-3-3 zeta	1.93706	1.0518333	1.1656483	1.1035241	1.12189	1.0312892	0.98851633	1.3275882	1.5320332	1.8057389	1.555195	1.2691565	1.4776924	0.90432318
Gammaglutaminyl transaminase	0.48068923	0.92346896	0.8109144	0.855888	0.8000445	1.365569	0.5972671	3.3871416	1.7194846	1.5387408	1.3312012	1.1944532	1.4744804	0.90432318
Ribosomal protein L13A	1.4947723	1.1708159	1.193786	0.8330713	1.1181859	0.7175415	0.307635	1.5213556	1.1916805	1.180195	0.9025008	1.0175059	1.0573914	1.0361423
Phase-1 RCT-45	0.7238974	2.304007	2.2729453	1.6519462	1.484108	1.5830529	1.2481897	1.314826	1.318873	1.1589574	1.0021608	1.1750697	0.8635529	1.486298
Phase-1 RCT-45	0.7238974	2.304007	2.2729453	1.6519462	1.484108	1.5830529	1.2481897	1.314826	1.318873	1.1589574	1.0021608	1.1750697	0.8635529	1.486298
Phase-1 RCT-45	0.7238974	2.304007	2.2729453	1.6519462	1.484108	1.5830529	1.2481897	1.314826	1.318873	1.1589574	1.0021608	1.1750697	0.8635529	1.486298
Phase-1 RCT-45	0.7238974	2.304007	2.2729453	1.6519462	1.484108	1.5830529	1.2481897	1.314826	1.318873	1.1589574	1.0021608	1.1750697	0.8635529	1.486298
Phase-1 RCT-45	0.7238974	2.304007	2.2729453	1.6519462	1.484108	1.5830529	1.2481897	1.314826	1.318873	1.1589574	1.0021608	1.1750697	0.8635529	1.486298
Phase-1 RCT-45	0.7238974	2.304007	2.2729453	1.6519462	1.484108	1.5830529	1.2481897	1.314826	1.318873	1.1589574	1.0021608	1.1750697	0.8635529	1.486298
Phase-1 RCT-45	0.7238974	2.304007	2.2729453	1.6519462	1.484108	1.5830529	1.2481897	1.314826	1.318873	1.1589574	1.0021608	1.1750697	0.8635529	1.486298
Phase-1 RCT-45	0.7238974	2.304007	2.2729453	1.6519462	1.484108	1.5830529	1.2481897	1.314826	1.318873	1.1589574	1.0021608	1.1750697	0.8635529	1.486298
Phase-1 RCT-45	0.7238974	2.304007	2.2729453	1.6519462	1.484108	1.5830529	1.2481897	1.314826	1					

Phase-1 RCT-13	1.374353	1.0044359	0.949143	1.0452516	1.0381108	0.9647705	1.0115189	0.83055786	0.8954669	0.9170099	1.0570063	0.98310455	0.980705	1.0565375
Fetuin (fct)	0.72126925	1.0063501	0.8416591	0.6742732	0.9331964	0.9347286	0.7519858	0.87949054	0.8894913	0.95891033	1.087919	0.7720545	1.5592569	1.3715692
3-hydroxyanthranilate dioxygenase	0.6476232	0.89220226	0.8057398	0.8277622	0.8626329	1.063973	0.9890108	0.8591088	0.8556533	0.978212	0.9678212	0.555525	0.6182023	1.245593
Carbonic anhydrase III, sequence 2	0.6186368	1.0473332	0.0271954	0.6421634	0.8337486	1.967993	0.9891029	0.8941907	0.7853694	0.7019474	0.90471435	0.8205529	0.6022665	1.2052919
Phase-1 RCT-10	0.7133048	0.78411927	0.6743442	0.4826478	0.7029182	0.97099423	1.0153112	0.7207145	0.71840074	0.7914667	0.634589	0.59452624	0.6022665	1.2052919
Alpha-2-microglobulin	0.7053761	1.20474	1.1413927	0.6206997	0.99999994	0.9300001	1.10081	0.42625348	0.563659	0.9503961	0.7860289	0.5874438	0.6916893	1.2377115
Dynamin-1 (D100)	1.0907103	0.8642843	0.7680841	0.85474586	0.85458556	0.737544	1.071254	0.7138803	0.8305516	0.7834706	1.0216607	0.6552465	0.6552465	1.2377115
Usp1 caldes	0.93788184	1.2013953	1.2688018	1.4376345	0.8889596	1.1038467	1.1478332	0.5183003	0.63501574	0.837068	0.8934611	0.8776353	0.709851	0.9118133
Phase-1 RCT-252	0.74215484	0.40335616	0.3279618	0.3729618	0.5314448	0.9117874	0.8583855	0.9213716	1.1331881	1.8451623	1.0720885	1.023512	0.9844512	0.94312847
Phase-1 RCT-29	1.2319651	0.955141864	0.39531094	0.782231	0.9887688	0.91727814	1.004762	0.9177814	1.059358	1.0519266	0.8633427	1.0846511	0.7635061	1.2047685
Phase-1 RCT-278	0.5750925	1.8925415	1.2636516	1.2026234	1.5458984	1.0520668	0.68243196	0.99227637	1.0006773	0.86074454	0.8633427	1.0846511	0.7635061	1.2047685
Phase-1 RCT-42	0.9546087	0.9017845	0.8591442	0.88365084	0.98363255	0.9534556	1.059358	0.9210236	1.0558075	0.8776353	0.86074454	0.8633427	1.0846511	1.2047685
Phase-1 RCT-25	0.9546087	0.9017845	0.8591442	0.88365084	0.98363255	0.9534556	1.059358	0.9210236	1.0558075	0.8776353	0.86074454	0.8633427	1.0846511	1.2047685
Cytochrome P450 2C11	0.73714658	1.3714658	1.2268101	1.268101	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Complement factor (CFH)	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-202	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-201	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-200	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-199	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-198	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-197	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-196	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-195	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-194	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-193	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-192	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-191	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-190	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-189	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-188	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-187	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-186	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-185	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-184	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-183	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-182	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-181	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-180	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-179	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-178	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-177	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-176	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-175	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-174	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-173	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-172	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-171	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-170	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-169	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-168	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-167	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-166	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-165	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-164	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-163	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-162	0.7164054	1.5675254	1.202836	0.7701231	1.0685716	1.2878861	0.7537881	0.2897406	1.2563565	1.1691331	0.85025278	0.95027845	0.8890898	1.1843357
Proteinase-1 RCT-161	0.7164054	1.5675254	1.2028											

Organic cation transporter 3	0.7247326	1.5818412	2.1345587	1.4814248	1.186784	1.0942992	1.25032	0.3820307	0.91618545	0.55421281	0.9929005	0.9757281	0.87730217	1.0618217
Hydroxymethylglutaryl CoA lyase	1.0633366	0.9895624	1.1636379	1.2055443	1.2247624	1.0372005	1.2635468	0.92731563	0.9863725	0.83710784	0.73679311	1.0239662	0.7731687	0.9865582
Phase-1 RCT-42	1.0632113	0.8855023	0.8008367	0.7979353	0.7474357	0.7595279	0.8868818	0.86501637	0.9281528	0.98676185	0.97730616	0.8159045	1.1619612	0.9700462
Phase-1 RCT-43	0.9521113	0.9119074	0.8733528	0.9535428	0.9107016	0.9045794	0.9586553	1.0000981	1.1000463	1.0740689	1.1720184	0.8851045	1.2794752	1.0055114
Male dihydrogenase, cytosolic	0.5929183	1.0312283	1.0396368	0.7399002	0.9339433	1.1046582	1.2705188	1.3267738	1.5743323	1.3550784	1.2706235	0.8562694	1.4275269	1.0322077
VL30 element	0.60894584	0.8428033	0.5978482	0.5439302	0.5443414	0.37222564	1.0586355	1.6974913	1.7297716	0.9494075	2.3353157	0.8862782	2.510405	0.8761255
Phase-1 RCT-189	1.0330633	0.8567421	0.4938794	0.5004981	1.0343988	0.5934096	1.1516245	0.540427	0.9326088	0.6085445	0.90517504	0.6145474	0.90309306	1.0988194
Alpha-fetoprotein	1.3083322	1.4054549	1.5342116	1.4148084	1.3257304	1.2974885	1.1022481	0.9139603	1.0006514	0.8973628	0.9227241	0.9328102	0.8253432	1.2186988
Calgranulin B	0.4289424	1.31871	1.2137658	0.50841265	1.0739668	1.3072203	0.9848324	0.77155244	0.9925508	0.8988261	1.1388053	0.8592984	1.0362389	1.0795291
Trisave plasmidogen activator	0.8333108	0.8654965	0.86854205	0.7302395	1.047237	0.9244766	0.8713339	0.87570766	0.9346794	0.9693501	0.91817915	0.9968811	0.88485044	1.0035335
Phase-1 RCT-185	0.88756425	0.8403744	0.7356211	0.69050286	0.8944962	0.7634607	0.92867545	1.2130237	1.138827	1.1701813	0.94765246	0.904511	1.0029683	1.08776
Liver fatty acid binding protein	0.2779189	1.3821452	1.4536741	0.78277975	1.081895	1.2585516	0.8830119	0.95105594	0.8890936	0.47671602	0.4833944	0.6921694	0.83348304	1.2013408
Alpha-1 microglobulin/bikunin precursor (Anbp)	0.59102154	1.4980462	1.5052874	1.07817813	1.0826925	1.3206339	1.1322818	1.0383575	1.013196	1.061187	1.121406	0.6771588	0.9857686	1.2012482
Phase-1 RCT-294	1.5387313	0.8247408	0.78974234	0.9628088	0.7881775	0.8077368	0.9039548	0.8238185	0.8895777	0.9784029	0.9510075	0.8695089	0.92032236	0.95000507
Phase-1 RCT-151	0.64866076	1.2084465	1.2303172	0.9940502	0.6307641	0.8947241	1.0081052	1.2693632	1.278117	1.1263884	1.176526	1.1852206	1.462836	0.9240423
Phase-1 RCT-158	1.700263	1.0354351	0.9804289	1.0328947	0.9807846	0.8701985	0.9142857	0.8676846	0.8699149	1.0218336	1.0551201	3.0118814	1.1328280	0.9404023
Phase-1 RCT-221	1.0378331	0.91822445	0.7012805	0.7378878	0.65483177	0.56398568	0.8387592	1.0619041	1.0077071	1.0987153	1.1576494	1.0550746	1.2389913	0.8858984
Phase-1 RCT-235	1.0170432	0.7201567	0.66938468	0.5305933	0.8804867	0.8234916	0.94058158	0.9687832	0.8950836	1.0123688	0.9304818	0.9242173	0.9001579	0.8682195
Organic anion transporter 3	1.203462	0.9344263	0.7959583	1.180674	0.8478887	1.0588868	1.0471583	0.84481014	0.77806346	0.83044107	0.949161	0.73466086	0.51703354	1.1667789
Neutrophilic proteinase-1	1.5348328	1.4380275	1.5708599	1.1139706	1.0305166	1.5960741	0.7094278	1.8254838	1.2999136	1.0790876	0.8637775	2.3856344	0.8774331	1.312709
Urinary protein 2 precursor	0.38295403	1.255217	1.4986178	0.70718396	0.91595674	1.2054161	1.4181455	0.68618164	0.7515533	0.6237259	0.6079804	0.67007166	0.50953865	1.3963865
Phase-1 RCT-212	1.0684634	0.852872	1.0157853	0.97511	1.0545986	0.8246079	1.1156482	1.3270696	1.2115074	1.2222428	1.3288201	1.080513	1.4374882	0.8708001

(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 18).

(2) Compound and dose abbreviations as in Table 1.

(3) Individual animal number

(4) Liver inflammation classification for compound-dose group at 72 h: yes=neor, necrosis observed; yes=both, necrosis with inflammation observed; no, no histopathologic observed

(5) Predictive gene (as in Table 18 and as included in Table 23)

Table 28

Table 28

[illegible]

Phase-1 RCT-32	1.4391015	1.4207483	0.8668482	1.4148178	1.0835916	0.8911089	1.062768	1.0821817	1.0171797	0.9699337	0.86632107	1.0085654	1.041457	0.93550044
Perisome assembly factor 1	1.1076563	1.1384281	1.0323869	1.0730468	1.0238961	0.8979245	1.0339118	0.9643559	0.8803833	0.85032916	0.86632107	1.0085654	1.041457	0.93550044
8-oxopantamethoxy glyoxalase	0.9671794	1.0765317	1.060725	1.0681694	0.9283683	1.0521635	1.0919515	0.988203	0.8869885	0.6865799	0.590508	0.9568639	0.7817393	0.8435737
Phase-1 RCT-42	1.033428	0.986626	0.9627597	1.0045571	1.053785	1.0744798	1.0323397	0.93321715	0.909407	0.8019576	0.4492837	1.0451476	0.686916	1.2597834
Malin F/G	1.062224	0.930493	1.127958	0.7827158	0.995969	0.9530024	0.9467953	1.00635	0.969919	1.210737	1.526435	1.0923438	1.3190664	1.2654783
Phase-1 RCT-184	1.0075557	1.0425428	0.9655765	0.99280185	0.985818	1.0462236	0.9402623	0.9307444	0.9307444	0.968176	1.160237	0.68415045	0.757958	1.5763406
Phase-1 RCT-168	1.0285711	0.6959337	0.8576806	0.8533959	0.8534285	0.9789651	0.9391113	1.1608913	0.9474083	0.787407	0.8226855	1.0986946	1.0874233	1.0431154
Phase-1 RCT-119	0.9847147	0.8491282	0.907423	1.1121122	1.0502428	0.975909	0.9144519	1.2087178	1.2087178	0.7592226	0.8176196	0.4512466	1.2077832	0.5629064
Carbonic anhydrase II	0.9400775	0.8352943	0.9226168	0.7670358	0.8557934	0.9561773	1.026578	1.068328	1.068328	1.382437	0.8470418	0.7169789	0.7324476	1.2410574
Tryptophan hydroxylase	1.158875	0.8056621	0.9783353	0.8728675	1.0502429	1.251741	1.195945	1.046651	1.022435	1.197152	0.963532	1.1162828	1.6270827	1.8402045
Phase-1 RCT-171	1.12049	1.034931	0.9682401	0.775818	1.0372267	1.042199	0.9478254	1.0046851	1.046651	0.787407	0.8226855	1.0986946	1.0874233	1.0431154
Phase-1 RCT-179	1.138107	1.0653897	1.0216721	1.1776572	0.96619076	0.9338404	1.0573962	0.94557846	0.97690586	1.224144	1.1246889	0.9853016	1.3360201	1.7107127
Phase-1 RCT-181	1.2152584	1.0746903	1.068199	1.0717363	1.0460603	0.97784825	0.99797877	1.0073418	1.0073418	0.9519013	0.9307089	1.2140448	0.93713094	1.0149516
Phase-1 RCT-144	1.2311654	1.1519616	1.0517651	0.943449	1.0185765	0.8571203	1.0765021	1.001341	0.94009125	0.92332536	0.9307089	1.2140448	0.93713094	1.0149516
Phase-1 RCT-225	1.3046439	1.3535538	1.3435538	0.9345538	0.8353538	1.2942766	0.8353538	1.2942766	0.8353538	1.2942766	0.8353538	1.2942766	0.8353538	1.2942766
Cyclodextrin P450 2E1	1.106448	0.8185945	0.8352943	0.9226168	0.7670358	0.8557934	0.9561773	1.026578	1.068328	1.382437	0.8470418	0.7169789	0.7324476	1.2410574
Phase-1 RCT-173	1.2192289	1.0535817	1.1002929	1.0810882	1.0023307	1.0071018	0.94658047	1.5483325	1.071118	1.0624764	0.70631148	0.6031148	0.851667	0.7208381
Thioladenin (Txi)	1.3765632	1.659673	0.9092153	0.89113235	0.8404665	1.0469888	0.9677905	1.0623669	0.831251	1.1473962	0.9348313	1.0398078	1.4901352	0.8400583
Carbonic anhydrase III	0.9681472	0.9659127	0.9734425	0.87784825	0.99797877	1.0073418	1.0073418	0.9519013	0.9307089	1.224144	1.1246889	0.9853016	1.3360201	1.7107127
Phase-1 RCT-140	0.7898027	0.925605	1.1407012	0.8118255	0.8776505	0.9767505	0.8223571	0.8182933	0.8596292	0.9675494	1.3571924	1.3270768	1.3541161	1.0710538
Complement component C3	0.8651947	0.7543324	0.9386265	0.8655655	0.782422	0.8520802	0.9675494	1.3571924	1.3270768	1.3541161	1.0710538	0.94693	1.045392	0.7220245
Glyoxalase	1.4660759	0.968723	0.9688154	0.9447475	1.0079452	0.93583417	0.9188989	0.9438915	0.8644552	0.8325575	0.8711965	1.2721031	0.8158523	1.0111487
Phase-1 RCT-173	1.042355	1.030221	0.9688154	0.9447475	1.0079452	0.93583417	0.9188989	0.9438915	0.8644552	0.8325575	0.8711965	1.2721031	0.8158523	1.0111487
3-methyladenine DNA glycosylase	1.097673	0.9772015	1.014494	1.127635	1.1291926	0.8533434	0.8271677	0.8514841	1.1832219	0.9330248	1.3255755	0.8711965	1.2721031	0.8158523
Peroxisomal multifunctional enzyme type II	0.987184	0.9763561	0.976808	0.8128642	0.8579832	0.8700024	0.8271677	0.8514841	1.1832219	0.9330248	1.3255755	0.8711965	1.2721031	0.8158523
Phase-1 RCT-40	0.9056241	0.7703715	0.9045496	0.8935314	0.7882633	0.772827	0.7595886	1.1280499	1.0416205	1.266858	1.3245778	0.5804685	0.9921964	1.3921765
Semaphorin marker protein-30	1.0911125	1.223063	1.223063	1.094312	1.198827	1.1107566	1.0720488	0.813224	1.4511033	0.844012	1.094241	1.1097989	1.5085688	1.2410102
Cyclin G	1.2499882	1.1405822	1.2007352	1.054246	0.82847357	0.777945	0.7277945	0.7277945	0.7277945	0.7277945	0.7277945	0.7277945	0.7277945	0.7277945
Melanoma-associated antigen ME491	1.1775948	0.9352009	0.9811908	0.949441	1.016278	1.016278	1.016278	1.016278	1.016278	1.016278	1.016278	1.016278	1.016278	1.016278
Phase-1 RCT-28	0.7061685	0.5643056	0.9402435	0.4062062	0.9857108	1.140578	1.016278	1.016278	1.016278	1.016278	1.016278	1.016278	1.016278	1.016278
Alcohol dehydrogenase 1	1.0282016	0.8448905	1.0418658	0.7159368	0.8857108	1.140578	1.016278	1.016278	1.016278	1.016278	1.016278	1.016278	1.016278	1.016278
JNK1 stress activated protein kinase	0.8106381	0.8520826	1.047274	1.0231787	1.214508	0.8088236	0.7309728	1.2630847	1.0014797	0.7802568	0.96348155	0.7976068	0.8719216	1.146864
Phase-1 RCT-55	1.0062453	1.2045553	1.5779655	0.8353053	1.115457	0.9038445	1.1947862	1.0233783	0.8325391	0.8204104	0.6222261	0.96348155	0.7976068	0.8719216
Phase-1 RCT-55	0.7775636	0.8358927	0.9874579	0.8972662	0.84853023	0.9696873	0.9505244	1.0054576	1.0187544	0.989472	1.146331	1.082068	1.484348	2.084538
Uridylate cyclizing enzyme (RAD 6 homologue)	0.8387802	0.9348186	1.1185626	0.85192513	0.9813798	0.9151466	0.8657102	0.8617974	1.1630039	0.9512486	1.1377658	1.1484348	2.084538	3.715357
DNA topoisomerase I	1.0218712	1.1429276	0.8652598	1.0053462	1.0177288	1.1412182	0.9327606	1.1380948	0.9625958	0.9335378	0.8379848	1.1325235	1.144305	0.8024548
Superoxide dismutase Mn	1.0217282	0.9764357	0.9188979	0.98817026	1.0945923	1.1759368	1.210169	1.0883915	1.2650231	1.2550231	1.2873516	1.1477357	1.4602013	2.5771514
Phase-1 RCT-141	1.4178652	0.993313	1.0766425	0.8083006	0.8210888	0.8369234	0.994948	0.9830318	1.3110378	1.685544	1.6386873	0.72835046	0.4832338	0.512857
Beta-tubulin, class I	0.9525634	0.7624724	0.8080883	1.0702984	0.9654533	1.0622809	0.83417886	0.8555407	1.260874	1.5700518	1.2155701	1.0710652	2.1747348	2.8435645
Carbamyl phosphate synthetase I	0.9159514	1.1050771	1.081484	1.151773	0.9334837	0.817153	1.1463512	0.9504393	0.9509655	0.914683	0.9939046	1.0688705	0.9205682	0.8101951
Phase-1 RCT-141	1.0002787	1.416328	1.2884331	1.3745162	1.034142	0.8488229	0.8116271	0.7425945	0.7572047	0.30718094	1.2599002	0.92097354	1.1326068	0.7193957
Glyceraldehyde kinase zeta	0.98077034	1.1075889	1.0627193	1.0327682	0.9628457	1.0311359	0.93887	0.9634897	1.1407205	0.9588972	1.7075292	0.5384945	0.6167899	1.275041
Gamma-actin, cytoplasmic	0.82404274	1.0075092	1.0514439	0.9552644	0.9251219	1.0221624	0.9755697	1.5171479	0.9303094	0.95421934	1.5406522	1.7075292	0.5384945	0.6167899
Ribosomal protein L13A	0.8293905	0.8293937	0.8309227	0.8534247	0.6884095	0.9680829	0.988635	1.087685	1.44349	1.2334631	1.2403561	1.1727208	1.4934385	1.6134553
Phase-1 RCT-45	1.0514884	1.0475249	1.4472709	1.0955339	1.3356216	1.1220204	1.019122	1.3833318	0.988341	0.988341	1.1432387	0.93145263	0.634888	0.3282022
Cdkn	1.0907642	1.2735114	1.0538281	1.3020523	1.1935297	0.9770911	1.124682	1.0067432	1.339189	1.0897919	1.94697	0.218226	0.9448812	0.2843519
Protein O-mannosyltransferase 1 (Pantl)	1.1043752	1.214551	1.1350361	1.2505432	0.9276549	1.0343716	1.0981004	1.124682	1.0067432	1.339189	1.0897919	1.94697	0.218226	0.9448812
HMG CoA reductase	0.97886036	0.909823	0.9263941	0.723337	0.8322816	1.045074	1.1348827	1.067981	1.1732247	1.0797845	1.6227378	0.9197383	1.1233987	0.5301785
Phase-1 RCT-12	0.8617997	0.961797	0.9356191	0.82420676	0.8835148	1.0583106	1.0012021	0.9867023	1.0300332	1.0620708	1.0730585	1.1030407	0.87376108	0.7748785
Interferon related developmental regulator (IFRD1)	0.9831772	0.9095905	1.0439614	1.1902914	0.97066877	0.6318749	1.0416102	1.0051893	1.1008086	1.1515131	0.8595496	1.285831	2.18344	2.7818956
Glucose-regulated protein 78	0.8511892	1.2238013	1.566497	1.155736	0.882825	0.9863665	0.807769	0.75724476	0.91428226	1.353269	1.3706651	1.3022482	1.6802812	2.9534137
3-beta-hydroxysteroid dehydrogenase (HSD3B1)	0.90235937	1.0252222	1.046708	0.9363027	1.038205	0.9281052	0.75670516	0.84208683	1.033773	1.139836	0.9107903	1.1637793	1.2050658	0.9353266
Caspase 6	1.1818423	1.1012442	1.064149	1.056573	1.041405	1.082884	1.0303843	1.0817986	1.072487	1.1204032	0.9114535	1.202804	1.2978904	0.92895046
Phase-1 RCT-169	0.95874324	1.1302775	1.0221608	1.1331176	1.032235	0.7714171	0.850456	0.7718146	0.8498375	0.61904764	1.6571766	1.6571766	1.6571766	1.6571766
Phase-1 RCT-197	1.07618	1.031227	1.0368139	1.105129	1.096533	0.9633376	1.05474	0.9455814	1.4460373	1.0120589	0.96117556	1.2368873	1.00115	1.2935346
Phase-1 RCT-34	1.0703478	1.1493608	1.4026551	0.8901727	1.1991684	1.0486079	1.43869	1.0535649	1.0674654	0.85260113	1.2105337	1.2249437	1.1032833	1.520847

Table 28

Phase-1 RCT-72	1.1105812	0.6680304	0.1073446	0.8700177	1.0517567	1.0557859	0.6394284	0.691980	0.7559106	1.1589519	0.9883293	0.6788449
Pyruvate kinase, muscle	1.1105006	1.1110457	1.7025256	0.0612894	1.084391	1.024586	0.87756935	0.8843164	0.9863109	1.1107737	0.9863293	0.6788449
Phase-1 RCT-288	1.0890434	0.9527196	0.7154505	0.0290445	0.9107745	0.9380885	0.83410253	1.0275818	1.2229304	0.9835553	1.1314484	1.2835146
Phase-1 RCT-80	1.09959141	1.0272104	0.9676221	0.8971115	1.0255232	1.0227518	0.6030241	0.7639501	1.7728954	0.9758798	1.1778587	0.8771724
Xoconome P450 2C39 (alternete clone 2)	0.92743636	0.902922	1.0410832	0.7103562	1.2690478	1.1268581	0.6894759	1.0665006	1.7728954	0.9758798	0.8771724	0.8771724
Phase-1 RCT-260	0.73977643	0.769599	0.8958136	1.1428813	0.814893	2.2714239	1.5361005	1.0271133	0.940553	1.2103519	1.1218507	0.8649568
Phase-1 RCT-261	1.0394431	1.004226	0.9042913	0.930555	0.8204115	0.8744071	0.9294501	1.0177641	1.4272135	1.0413845	1.9356018	2.3246608
Methylglutaryl-CoA reductase alpha	0.91600593	1.0765688	0.8293253	0.96249163	1.3237388	1.0180957	1.0259383	1.3148496	0.9202024	0.9394455	0.9461183	0.8854604
Cytochrome P450 1A2	0.857256	0.7769119	0.6953557	0.87721394	1.119435	1.0044049	1.0241758	1.6701707	1.3148496	0.9202024	0.9394455	0.9461183
Monooxygenase B	0.84359603	0.8763459	0.8922413	1.0127688	0.92881805	0.9534432	0.8694352	1.0259383	1.3148496	0.9202024	0.9394455	0.9461183
Phase-1 RCT-264	1.0445122	0.763889	1.052528	0.6006534	0.77652438	1.0346182	0.8776757	0.8851893	1.1933946	1.0259383	1.3148496	0.9202024
Peroxisome proliferator activated receptor gamma	0.90621096	0.90524515	0.9802453	0.6839174	1.0873917	1.0589373	0.9553315	0.9673257	1.0612357	0.9716357	1.7894421	1.1194915
Phase-1 RCT-143	1.0378013	0.88683368	1.1256618	0.74245924	0.9474768	0.80090626	0.98687085	0.99478354	0.98490027	0.7194782	1.0976483	0.8771724
Phase-1 RCT-295	1.0759055	0.8005895	0.63079535	0.8245737	1.1734327	0.8728741	0.8294731	0.983387	1.0040493	0.8813726	0.91170853	1.0570208
Glutathione S-Transferase theta-1	1.1129373	0.670767	0.8612818	0.6585236	0.8967827	0.87591077	0.8828741	0.8294731	0.983387	1.0040493	0.8813726	0.91170853
Phase-1 RCT-91	0.9849637	0.8310226	0.9012683	0.8906335	1.1394688	1.155994	0.9713596	0.97324016	1.0004476	1.003786	0.9292421	1.06734
Phase-1 RCT-148	0.6326084	0.9173162	0.9081703	0.9081703	1.0069191	0.9613596	0.97324016	1.0004476	1.003786	0.9292421	1.06734	1.06734
Phase-1 RCT-142	1.1752899	1.059033	1.006539	1.059033	0.92307674	0.8576326	0.9081595	0.9378112	1.0888703	0.8291966	0.9716893	0.93717525
Adenine receptor type II	0.88916404	0.8295568	0.7989872	1.278179	1.0323455	1.2654394	0.9080587	0.9188426	1.7656227	1.1011447	0.6632761	0.6716893
Glycine methyltransferase	0.92571697	0.8676027	0.8894487	0.82711905	0.90532637	0.7843193	0.8774716	0.8084666	1.1843351	1.3951892	0.7327052	1.0416608
Phase-1 RCT-281	1.0827251	0.9874101	0.8613893	1.0521608	0.92639013	0.9883436	1.0185141	0.9677007	0.8655074	0.7399274	0.8082238	1.0205365
Ciliary neurotrophic factor	1.2444192	1.1272155	1.2688411	1.1596102	1.33952079	1.291953	0.785395	0.6189477	1.3249205	1.4	1.4330041	0.80110574
Gap junction membrane channel protein beta 1 (Gjb1)	1.2444192	1.1272155	1.2688411	1.1596102	1.33952079	1.291953	0.785395	0.6189477	1.3249205	1.4	1.4330041	0.80110574
Phase-1 RCT-98	1.1512748	1.0297321	1.0795934	1.0313008	1.0795934	0.9659721	0.9868798	1.4635117	0.858167	0.7876042	1.1298675	0.96824913
Phase-1 RCT-287	0.9804331	1.00681781	1.146569	1.146569	1.0755186	0.940578	0.940578	1.1376208	1.0942087	0.8337989	1.0914934	0.81462944
Retinol-binding protein (RBP)	0.9804331	1.00681781	1.146569	1.146569	1.0755186	0.940578	0.940578	1.1376208	1.0942087	0.8337989	1.0914934	0.81462944
Very long-chain acyl-CoA synthetase	1.024628	0.89332058	0.85603983	0.9581194	1.1244864	0.9201157	0.9615916	0.9832021	1.2948772	1.4433515	0.81745445	1.221806
Phase-1 RCT-145	1.1674828	0.9147528	1.0098462	1.0098462	1.2456896	1.0417047	0.8207281	0.9382914	1.2948772	1.4433515	0.81745445	1.221806
Syndecan-1	0.7837006	0.7828371	0.8664797	0.6793385	0.8620726	0.6993306	0.8273392	0.9510733	1.1260398	0.9280019	0.4951956	0.8457689
Syndecan-1	1.133051	1.19303	1.163788	1.2176159	1.2018268	0.9716688	0.9271657	0.9745163	0.9500771	0.8753937	0.8839564	0.8159135
Phase-1 RCT-145	1.0204508	0.9594295	1.167288	1.03719653	0.983522	0.85911756	0.9716513	0.98034495	0.75739497	0.9739347	0.8753937	0.8839564
Adin	0.9122983	0.8834558	0.84142184	0.85281946	0.896725	1.680366	1.1687884	0.6865374	1.178931	1.1490038	1.208382	1.339594
Phase-1 RCT-69	0.94102652	0.8900115	0.9024392	0.8853068	0.9971068	0.8337493	0.9241457	0.959468	0.8602074	0.89555943	0.9303884	1.2709712
Sarcoplasmic reticulum calcium ATPase	0.96530714	0.9343855	1.0755186	1.0755186	1.0291655	0.9678652	1.1419094	0.0406656	1.3011414	1.0855992	0.9521127	1.1457104
Alpha-2-macroglobulin, sequence 2	0.9526317	1.0451553	1.1370115	1.1370115	1.424741	0.9678652	1.1419094	0.0406656	1.3011414	1.0855992	0.9521127	1.1457104
Phase-1 RCT-204	1.008041	0.9785676	1.0534897	1.195572	1.0431378	1.0586333	1.0131397	1.0274467	1.0207056	0.8714277	0.9083087	1.0133529
Vascular endothelial growth factor	1.04689768	1.0014487	1.0833117	1.1891557	1.1240843	1.2688807	1.1212728	1.1294988	1.3194877	1.595408	1.1817317	1.041552
NADP-dependent isocitrate dehydrogenase, cytosolic	0.9492402	0.79877417	0.95306338	0.8628074	0.9313159	1.0393492	0.9655568	1.1105954	0.8840693	1.1318537	1.1693441	0.90438023
DNA binding protein inhibitor ID2	1.004627	1.2224158	0.8625123	0.9805306	1.2847092	1.134268	0.7803568	0.8628965	0.8206193	1.0056955	0.8206193	1.2581838
Glutathione S-transferase Yn	0.908138	1.0158463	0.82648504	0.8057468	0.93432773	0.2861739	1.125469	0.4718632	0.9301214	0.8261636	1.0652265	2.9184947
Epoxide hydrolase	1.2920175	1.2261273	1.17670069	1.0827416	1.2288755	1.0827416	1.0827416	1.3081915	1.1595292	1.1814846	1.5257339	0.97738145
Insulin-like growth factor-1	1.0080794	0.7435755	1.3088425	0.5574808	0.9490437	0.9304711	0.9027814	1.0201755	1.0329782	1.024572	0.9775005	1.270142
Phase-1 RCT-138	1.1169852	1.355539	1.2417797	1.1574762	1.0683685	0.8354707	0.9607327	0.8050208	1.124248	0.9118683	1.298947	0.6718605
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.9226429	0.93447436	1.085212	1.2528662	1.0296764	0.8510056
Phase-1 RCT-138	0.8895324	0.811705	0.92501736	0.95481156	0.95953763	1.0240047	0.					

Phase-1 RCT-3	1.1250192	1.1414472	0.9969297	0.9891903	1.0347658	0.9665336	0.97472435	0.97072186	0.8654808	0.7463206	0.7820835	1.0600312	0.81503121	0.6944594
F-actin beta (clon)	1.2502992	1.1414472	1.1411886	1.1094257	0.98163478	1.1920975	0.80031116	0.8558113	1.034271	1.19247	0.9655375	0.89178517	1.2713508	0.81055768
3-hydroxyisovalerate dehydrogenase	0.92029225	0.9681141	0.9396225	0.97330105	0.7971021	1.0064319	0.67416506	0.7159126	1.1974235	1.0139643	0.87620748	0.8243353	1.2377698	0.7653386
Carnitine acetyltransferase III, sequence 2	0.98048855	1.139637	1.139637	0.91330105	0.7971021	1.0359005	0.67416506	0.7159126	1.1974235	1.0139643	0.87620748	0.8243353	1.2377698	0.7653386
Phase-1 RCT-10	1.050708	1.097152	0.9201093	0.71371615	0.8418958	1.0049903	0.8127403	0.88577414	0.9604986	1.126907	0.957358	0.9778742	1.2401609	0.8533307
Phase-1 RCT-10	1.050708	1.097152	0.9201093	0.71371615	0.8418958	1.0049903	0.8127403	0.88577414	0.9604986	1.126907	0.957358	0.9778742	1.2401609	0.8533307
Alpha-2-macroglobulin	1.0457818	0.833344	0.8123966	0.96591604	0.93240147	0.9176275	0.87706513	0.95085967	0.9002028	0.7655905	0.7710721	1.2684624	2.0885451	1.7041103
Dynamin-1 (D10)	0.9207894	0.865643	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338
Yeast oxidase	0.9207894	0.865643	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338
Phase-1 RCT-252	0.9207894	0.865643	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338
Phase-1 RCT-259	0.9207894	0.865643	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338
Phase-1 RCT-276	0.9207894	0.865643	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338
Phase-1 RCT-42	0.9207894	0.865643	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338
Phase-1 RCT-25	0.9207894	0.865643	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338	0.920781	0.887338
Cytochrome P450 2C11	1.105071	0.937447	0.92009147	0.86694455	1.124302	1.0277007	0.935372	0.9853595	1.028881	1.028881	1.028881	1.028881	1.028881	1.028881
Phase-1 RCT-202	1.105071	0.937447	0.92009147	0.86694455	1.124302	1.0277007	0.935372	0.9853595	1.028881	1.028881	1.028881	1.028881	1.028881	1.028881
Complement factor I (CFI)	0.863566	0.9053372	1.0586721	0.86677897	1.080179	0.92907857	0.9704127	0.9973366	1.041062	1.041062	1.041062	1.041062	1.041062	1.041062
Proinflammatory cell nuclear antigen gene	1.2076757	0.9954134	0.972511	0.844138	1.0504996	0.9026927	0.9963375	0.9963375	1.113728	0.91059116	0.9055612	1.017178	0.9526966	0.9731055
Activating transcription factor 3	1.2216127	1.043858	0.8382019	1.0384402	0.99156524	1.1268996	0.9439148	0.995945	1.113728	0.91059116	0.9055612	1.017178	0.9526966	0.9731055
Focal adhesion kinase (p125FAK)	1.0716922	1.0634989	0.10599475	0.93180823	0.99156524	1.1268996	0.9439148	0.995945	1.113728	0.91059116	0.9055612	1.017178	0.9526966	0.9731055
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.0841353	1.1210116
Phase-1 RCT-289	1.0124767	0.8655154	0.86552477	0.7880005	0.9560064	1.1264015	0.924944	1.071321	0.967849	0.9633767	0.9539801	1.081358	1.08413	

Organic cation transporter 3	0.83559895	0.99687153	1.0613657	0.8717553	0.97960784	0.82546043	0.97237388	1.0280194	0.94732837	1.0028063	1.0522375	1.0782694	1.7623452	1.5655185
Hypoxia-inducible factor 1 alpha	1.3855891	1.1361456	1.0631327	0.9617527	0.9520586	1.1228304	1.0564278	1.0173577	0.9649575	0.79887685	0.85780054	1.0928619	0.9515307	1.6740686
Phase-1 RCT-43	0.97141445	0.9509985	1.0609464	0.9228643	1.0415969	0.92320267	0.97154737	0.8605688	1.1834539	1.2603366	0.95253825	1.180338	1.0027952	0.652047
Phase-1 RCT-45	1.1302125	1.1040598	1.2845353	1.1426213	1.0744708	0.96226245	1.0078584	0.95467071	1.0808234	0.9754869	0.7741101	1.3209688	1.3041979	1.0019686
Malate dehydrogenase, cytosolic	0.9029455	0.8872101	0.9063265	1.0467836	1.0026248	1.0853682	0.9725481	1.0236126	1.0951968	1.225113	1.1820226	0.6707024	0.9481764	2.2707787
VL30 element	1.2346878	1.3037267	1.2093866	0.68746114	1.0117289	2.9505298	1.7437306	1.571057	1.0395871	0.89067855	1.0817927	1.036571	1.4082926	2.1034048
Phase-1 RCT-189	0.96145666	0.7453764	0.8703954	0.8014326	0.8960895	1.2471728	1.0180426	1.0475435	1.2246385	1.1464561	1.175568	1.0538952	1.6004895	1.6872063
Alpha-fetoprotein	0.9438725	0.8461674	0.9170301	0.6893775	0.9240711	1.0724972	0.9054167	1.0475435	0.96321713	0.88041218	0.78314435	0.956225	1.4066562	2.0060618
Calgranulin B	1.0078408	0.87652504	1.1022514	0.82853516	0.99177843	0.97876347	0.98836894	1.1211913	0.9410544	0.932172	0.83404694	1.0410918	0.8481482	0.95121306
Tissue plasminogen activator	0.9700209	0.9134394	0.9488666	1.0818069	1.0216123	0.97876347	0.98836894	1.1211913	0.9410544	0.932172	0.83404694	1.0410918	0.8481482	0.95121306
Phase-1 RCT-195	0.9056008	0.832044	0.9488666	1.0818069	1.0216123	0.97876347	0.98836894	1.1211913	0.9410544	0.932172	0.83404694	1.0410918	0.8481482	0.95121306
Liver fatty acid binding protein	0.9742871	0.80167385	1.096503	0.8351997	0.9685481	1.0557092	0.9195067	1.1211913	0.9410544	0.932172	0.83404694	1.0410918	0.8481482	0.95121306
Alpha-1 microglobulin/bikunin precursor (Arip)	1.0131877	1.013942	1.0118871	1.245084	1.0148073	0.91865795	0.9716104	0.98535186	0.82069523	0.7502413	0.74583334	1.0787366	0.97655399	0.81872517
Phase-1 RCT-284	1.08791	1.0283045	1.0351616	1.2074069	0.96370866	1.0433955	0.9816377	0.8233998	1.0957958	0.7798881	1.081436	0.7899114	0.79945023	0.8251235
Phase-1 RCT-151	1.1122077	1.1215975	1.2071173	1.135528	1.0017313	0.9883153	0.9866374	0.9617409	0.9464482	0.77939343	0.7615196	1.0450308	1.2387897	1.1090978
Phase-1 RCT-158	0.8543759	0.8909156	0.8598676	0.9670206	0.9035988	0.9505726	0.8989576	0.7638605	1.0384121	1.1359934	1.1929793	1.0450308	1.2387897	1.1090978
Phase-1 RCT-221	0.8543759	0.8909156	0.8598676	0.9670206	0.9035988	0.9505726	0.8989576	0.7638605	1.0384121	1.1359934	1.1929793	1.0450308	1.2387897	1.1090978
Phase-1 RCT-235	1.0307869	1.0181113	0.9508949	0.9096582	1.2061173	0.9494744	1.0560342	0.8905738	0.8114621	0.96590357	1.1463015	0.89920824	0.8994216	0.9283636
Organic anion transporter 3	1.0215379	1.064139	1.1204358	1.0842026	1.1142659	1.1568711	0.90702945	1.0406342	1.0934616	0.9488756	1.1787173	0.89020824	1.0964856	1.2098839
Malic metalloproteinase-1	0.80821314	0.5359705	1.0624308	0.8209255	0.95404184	0.83803304	0.80924827	0.8099774	0.59342285	0.6247754	0.7797665	0.8769427	2.0471814	2.6209462
Urinary protein 2 precursor	1.0348009	1.0131453	1.0594159	0.9069422	1.0486423	1.207818	1.146252	1.1241823	0.94406484	0.9722207	0.956231	1.046214	0.81557184	0.7014004
Phase-1 RCT-212														
(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 18).														
(2) Compound and dose abbreviations as in Table 1.														
(3) Individual animal number														
(4) Liver inflammation classification for compound-dose group at 72 h: yes=ncr, necrosis observed; yes=both, necrosis with inflammation observed; no, no histopathology observed														
(5) Predictive gene (as in Table 18 and as included in Table 28)														

Table 28

Table 28. Expression Data for 6 Hour Timepoint (1)

Phase-1 RCT-32	0.9769584	0.8935556	1.0687232	0.5271179	0.7256464	0.62963814	1.0104817	1.0477551	1.2943927	1.0755236	1.0185945	1.3141589	0.9188876	1.0502914
Pericentromeric assembly factor 1	1.141516	1.0456865	1.3317781	0.995773	0.9693964	0.9715021	0.9849749	1.0477551	1.2943927	1.0755236	1.0185945	1.3141589	0.9188876	1.0502914
9-oxoanthranilate 3,4-dioxygenase	1.114129	1.0104282	0.9752234	0.9683616	0.8669275	0.9715021	0.9849749	1.0477551	1.2943927	1.0755236	1.0185945	1.3141589	0.9188876	1.0502914
Phase-1 RCT-42	0.99012923	1.0227041	0.9167779	0.9452384	0.9776212	0.97824	0.877224	1.007787	0.79403135	1.3368004	1.2313519	1.952883	1.3821142	1.0041089
Malin F/G	0.6979404	0.7781702	0.7789343	0.97352654	0.74574897	1.0244839	0.7669474	1.007787	0.79403135	1.3368004	1.2313519	1.952883	1.3821142	1.0041089
Phase-1 RCT-184	0.8098623	0.8330656	0.9628176	0.95227796	0.91579914	0.92407619	0.92407619	0.92407619	0.92407619	0.92407619	0.92407619	0.92407619	0.92407619	0.92407619
Phase-1 RCT-188	0.70309716	0.7184438	0.91460824	0.6079588	0.75655428	0.72309393	0.72309393	0.72309393	0.72309393	0.72309393	0.72309393	0.72309393	0.72309393	0.72309393
Phase-1 RCT-119	0.58856151	0.78779637	0.8442778	0.9177937	0.8633026	0.907091	0.907091	0.907091	0.907091	0.907091	0.907091	0.907091	0.907091	0.907091
Carbonic anhydrase II	1.0207461	1.0188148	0.8442778	0.9177937	0.8633026	0.907091	0.907091	0.907091	0.907091	0.907091	0.907091	0.907091	0.907091	0.907091
Triphosphatase hydroxylase	0.78154635	0.816873	0.7943988	1.0855227	1.0740751	1.0535361	1.1723921	0.8214706	0.8214706	0.8214706	0.8214706	0.8214706	0.8214706	0.8214706
Phase-1 RCT-71	1.1953665	1.2168597	1.575067	1.2167754	1.0474427	1.0535361	1.1723921	0.8214706	0.8214706	0.8214706	0.8214706	0.8214706	0.8214706	0.8214706
Phase-1 RCT-179	1.1835318	1.3923937	0.8421533	0.9510439	1.162711	1.1304893	0.6350764	0.9133167	0.8337014	0.8653677	0.8653677	0.8653677	0.8653677	0.8653677
Phase-1 RCT-207	1.2635333	1.2073402	0.9421533	0.9510439	1.162711	1.1304893	0.6350764	0.9133167	0.8337014	0.8653677	0.8653677	0.8653677	0.8653677	0.8653677
Phase-1 RCT-144	1.5319546	1.3657887	1.355191	1.565766	1.3024839	1.3024839	1.3024839	1.3024839	1.3024839	1.3024839	1.3024839	1.3024839	1.3024839	1.3024839
Phase-1 RCT-225	1.045893	1.0256572	1.4272888	1.3024839	1.3024839	1.3024839	1.3024839	1.3024839	1.3024839	1.3024839	1.3024839	1.3024839	1.3024839	1.3024839
Cytochrome P450 2E1	0.88971435	0.94885576	0.81940557	0.6181762	0.8273657	0.9631865	0.7051388	0.660162	0.6864362	0.6864362	0.6864362	0.6864362	0.6864362	0.6864362
ID-1	1.3212638	1.1135905	1.2173277	1.08379	1.0959654	1.0878427	0.9060717	1.0959654	1.0959654	1.0959654	1.0959654	1.0959654	1.0959654	1.0959654
Thioredoxin-1 (Trx1)	0.8006969	0.63346505	0.4965555	0.17578028	0.2984954	0.40367492	0.18811588	0.3971557	0.8121011	0.39593918	0.39593918	0.39593918	0.39593918	0.39593918
Carbonic anhydrase III	1.0642251	1.1594596	1.0911108	1.0655617	0.68432405	0.55855313	0.7448023	1.1727023	1.1727023	1.1727023	1.1727023	1.1727023	1.1727023	1.1727023
Phase-1 RCT-140	0.81330146	0.9074983	0.6881487	1.4176657	0.68432405	0.55855313	0.7448023	1.1727023	1.1727023	1.1727023	1.1727023	1.1727023	1.1727023	1.1727023
Complement component C3	0.83932555	0.6973208	0.33052658	0.8838354	0.6875334	0.8286461	0.6509724	0.8838354	0.8838354	0.8838354	0.8838354	0.8838354	0.8838354	0.8838354
Glucokinase	0.9579192	1.0365096	0.8892899	1.722472	1.3169551	0.8286461	0.6509724	0.8838354	0.8838354	0.8838354	0.8838354	0.8838354	0.8838354	0.8838354
Phase-1 RCT-173	1.0814316	1.0516894	1.0342819	1.0867547	1.0570261	1.0570261	1.0570261	1.0570261	1.0570261	1.0570261	1.0570261	1.0570261	1.0570261	1.0570261
3-methyladenine DNA glycosylase	0.7015513	0.7502904	1.0430382	0.7776255	0.9754915	1.0789783	1.0161078	0.9068086	0.9705853	1.0258742	1.0787603	0.9120428	1.0482518	1.012707
Perisomal multifunctional enzyme type II	0.6229137	0.6459498	0.6521928	0.7296857	0.70875737	0.8119471	0.6822185	1.0952945	1.424313	1.0258742	1.0787603	0.9120428	1.0482518	1.012707
Phase-1 RCT-40	0.7016908	0.8205483	0.957829	0.30052517	0.4592924	0.40305694	0.2292552	0.48541768	0.6894271	0.54466768	0.37514776	0.3975878	0.29592137	1.0017437
Sensinase marker protein-30	2.723597	2.065647	1.8833618	0.8291581	0.9702241	1.024351	0.92594951	0.90110375	1.0073358	0.8827185	1.230805	1.0441168	1.0100834	0.8575885
Cyclin G	1.050204	0.9050299	0.7632158	1.0815402	1.0297829	0.9207829	0.9207829	0.9207829	0.9207829	0.9207829	0.9207829	0.9207829	0.9207829	0.9207829
Phase-1 RCT-28	1.0351764	1.0707657	0.9424185	1.0646588	1.0237816	1.0327816	1.0327816	1.0327816	1.0327816	1.0327816	1.0327816	1.0327816	1.0327816	1.0327816
Eractin	0.8109528	0.7032518	1.268872	1.1103119	0.6508274	0.56519597	0.6521263	0.7853843	0.87154387	0.81624368	1.2019474	1.230805	0.9507109	0.8524141
Alcohol dehydrogenase I	0.60101223	0.74251667	0.61723856	0.86056874	1.1645037	0.9639035	0.9639035	0.9639035	0.9639035	0.9639035	0.9639035	0.9639035	0.9639035	0.9639035
Stem cell factor	1.1184781	1.1073128	0.8483415	1.0275316	0.7575316	0.7575316	0.7575316	0.7575316	0.7575316	0.7575316	0.7575316	0.7575316	0.7575316	0.7575316
INK4 stress activated protein kinase	0.95836024	0.9939812	0.9803617	1.6404183	1.1585383	1.0314526	0.7907268	0.85172946	0.85172946	0.85172946	0.85172946	0.85172946	0.85172946	0.85172946
Phase-1 RCT-55	1.0578318	1.0162641	1.0737871	1.1892324	1.3187292	1.04391155	0.7287783	1.0987243	0.86007979	0.86007979	0.86007979	0.86007979	0.86007979	0.86007979
Uridylate cyclizing enzyme (RAD 6 homologue)	0.7523254	0.7558974	0.8480351	1.0547451	0.7431991	0.7431991	0.7431991	0.7431991	0.7431991	0.7431991	0.7431991	0.7431991	0.7431991	0.7431991
DNA topoisomerase I	1.060417	1.1102597	1.0151228	0.78344357	1.1332078	0.8093881	0.8093881	0.8093881	0.8093881	0.8093881	0.8093881	0.8093881	0.8093881	0.8093881
Phase-1 RCT-280	1.0707496	0.94872206	1.3575883	1.2195309	0.8971136	0.8971136	0.8971136	0.8971136	0.8971136	0.8971136	0.8971136	0.8971136	0.8971136	0.8971136
Superoxide dismutase Mn	1.1647443	1.0264555	1.0264555	1.0264555	1.0264555	1.0264555	1.0264555	1.0264555	1.0264555	1.0264555	1.0264555	1.0264555	1.0264555	1.0264555
Beta-tubulin, class I	0.41882687	0.6316188	0.3957071	1.0802811	1.0802811	1.0802811	1.0802811	1.0802811	1.0802811	1.0802811	1.0802811	1.0802811	1.0802811	1.0802811
Carbamyl phosphate synthetase I	0.9469499	0.8788513	0.98973108	1.2805864	1.0227855	0.8250342	1.0823637	0.9684742	1.0023637	0.9684742	1.0023637	0.9684742	1.0023637	0.9684742
Diacylglycerol kinase zeta	0.8889487	0.8865686	1.0170179	0.9873008	0.8770838	0.8770838	0.8770838	0.8770838	0.8770838	0.8770838	0.8770838	0.8770838	0.8770838	0.8770838
Phase-1 RCT-141	1.373529	1.5443193	1.8653462	0.851578	0.9684742	1.0023637	0.9684742	1.0023637	0.9684742	1.0023637	0.9684742	1.0023637	0.9684742	1.0023637
14-3-3 zeta	0.39256	0.4703287	0.5522875	1.1253737	1.0434378	1.0434378	1.0434378	1.0434378	1.0434378	1.0434378	1.0434378	1.0434378	1.0434378	1.0434378
Gammacellin, cytoplasmic	0.80545594	0.8047739	1.1515516	1.293737	1.0434378	1.0434378	1.0434378	1.0434378	1.0434378	1.0434378	1.0434378	1.0434378	1.0434378	1.0434378
Ribosomal protein L13A	0.8697594	0.85182236	1.283028	0.897975	1.0593618	1.0593618	1.0593618	1.0593618	1.0593618	1.0593618	1.0593618	1.0593618	1.0593618	1.0593618
IL-8	1.5685599	1.502033	1.6688019	1.2830735	1.0593618	1.0593618	1.0593618	1.0593618	1.0593618	1.0593618	1.0593618	1.0593618	1.0593618	1.0593618
Phase-1 RCT-65	2.3511446	1.4556346	1.528328	1.0697975	1.3391966	1.3391966	1.3391966	1.3391966	1.3391966	1.3391966	1.3391966	1.3391966	1.3391966	1.3391966
c-Jun	2.9379619	1.9554826	2.118154	1.851129	1.1381216	1.1723929	0.7562345	1.1538911	0.9533246	0.9533246	0.9533246	0.9533246	0.9533246	0.9533246
Protein O-mannosyltransferase 1 (Pom1)	1.8468074	1.5898711	1.5898711	1.5898711	1.5898711	1.5898711	1.5898711	1.5898711	1.5898711	1.5898711	1.5898711	1.5898711	1.5898711	1.5898711
HMG CoA reductase	1.3167604	1.2147846	1.575243	1.1880569	0.95488673	1.0621802	1.0293598	0.70430505	0.79875067	0.8370481	0.82744391	0.8469739	1.0039333	1.016651
Phase-1 RCT-12	0.82658255	0.8141601	0.8941427	1.5880272	1.1251776	1.333298	1.3681786	1.0543588	1.2323107	1.2882762	1.4393816	1.2545093	1.3299127	0.8557413
Interferon related developmental regulator FRD1 (PC4)	0.5697088	0.5681722	1.062331	0.9539333	0.9600471	0.9600471	0.9600471	0.9600471	0.9600471	0.9600471	0.9600471	0.9600471	0.9600471	0.9600471
Glucose-regulated protein 78	0.97763133	0.90868107	0.93943005	0.587421	0.86252485	0.8685504	0.8685504	0.8685504	0.8685504	0.8685504	0.8685504	0.8685504	0.8685504	0.8685504
3-ketohydroxyacid dehydrogenase (HSD3B1)	1.0713523	1.0369905	1.1597272	1.2146997	1.3018749	1.2252591	1.327765	1.338557	1.338557	1.338557	1.338557	1.338557	1.338557	1.338557
Caspase 6	1.1969887	0.96553868	0.8198591	1.0759924	1.0246239	0.9604001	0.87685265	1.4113702	1.2170441	1.0568713	1.004333	1.007721	1.0528894	0.71014984
Phase-1 RCT-169	1.4282553	1.2697275	1.3312808	1.0529103	1.0711221	1.173303	1.2233564	1.2439715	1.4957703	1.261603	1.3718771	1.1491425	0.9685528	0.56059134
Phase-1 RCT-34	1.4910659	1.2971586	2.2257657	1.6183391	1.1257181	1.6556021	1.6065669	0.9728746	0.96576246	0.9699156	0.9474135	0.8943364	0.9685528	0.56059134

Phase-1 RCT-72	0.96891623	1.3251092	0.8330981	1.2209158	1.0102443	1.015947	0.9795826	1.4454983	1.0443256	0.8003553	1.172727	1.1287836	1.1589708	0.87906596
Pyruvate kinase, muscle	0.9783188	1.0239805	0.9824534	1.310553	1.1250804	1.2851156	1.439451	1.125882	1.0220385	1.152401	1.4635687	1.3940432	2.3148333	0.71320075
Phase-1 RCT-288	0.60301095	0.5889971	0.9405039	0.967635	0.8405039	0.7304396	0.7603054	1.803731	1.019181	1.0682901	0.955158	0.8682157	0.9510344	0.6259262
Phase-1 RCT-30	1.1236596	1.0731449	0.9947884	1.0310557	0.9741344	0.9442335	0.9630177	1.202184	0.9272775	0.9873275	0.92549645	1.250218	0.9655333	0.50500643
Cytochrome P450 2C39 (alternative clone 2)	0.5855957	0.6020262	0.77618197	0.679169	0.7439169	0.9432688	0.9172943	1.1860024	0.6046824	0.9422943	0.841741	0.9845355	2.9654836	0.99204086
Phase-1 RCT-361	0.653989	1.0438932	0.7068247	1.5517427	2.5798991	2.4553704	1.8712263	3.3897011	1.5776835	0.7802746	0.6806498	0.7802746	0.4288765	1.3317089
Phase-1 RCT-361	1.1087527	1.116053	0.9405039	0.967635	0.8405039	0.7304396	0.7603054	1.803731	1.019181	1.0682901	0.955158	0.8682157	0.9510344	0.6259262
Methylglutaryl-CoA lyase	0.89893736	0.89893736	1.024867	1.04762487	0.88123745	0.7429008	0.88123745	1.0682901	0.955158	0.8682157	0.9510344	0.6259262	0.9510344	0.6259262
Phase-1 RCT-140	1.1521559	0.87104374	1.0862838	1.4339283	0.8632087	1.1271632	0.71075433	1.0388474	0.9141484	0.9141484	1.0388474	0.9141484	1.0388474	0.9141484
Phase-1 RCT-140	0.8205775	0.6276892	0.8406554	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308
Monomeric oxidase B	0.74891516	0.6276892	0.8406554	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308
Phase-1 RCT-284	1.3069045	1.3343592	1.4336195	1.2041274	0.8344503	1.049494	0.9141484	1.0388474	0.9141484	0.9141484	1.0388474	0.9141484	1.0388474	0.9141484
Peroxisome proliferator-activated receptor gamma	0.7048939	0.7048939	0.8205775	0.6276892	0.8406554	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308
Phase-1 RCT-143	1.1038234	1.2338924	1.3212848	0.5463464	0.97126536	0.9519178	1.0682901	0.955158	0.8682157	0.9510344	0.6259262	0.9510344	0.6259262	0.9510344
Phase-1 RCT-117	1.1376265	0.9112859	1.1771144	1.1187601	0.8976508	0.8948766	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308
Glutathione S-transferase theta-1	0.84276175	0.8182798	0.8182798	0.8182798	0.8182798	0.8182798	0.8182798	0.8182798	0.8182798	0.8182798	0.8182798	0.8182798	0.8182798	0.8182798
Phase-1 RCT-41	0.7516633	0.82975745	0.82010514	1.0430917	1.0063423	1.2136445	1.078891	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308
Phase-1 RCT-418	0.7166318	0.7386055	0.8925777	0.68291044	0.95167303	0.9045574	1.078891	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308	0.8116308
Phase-1 RCT-412	1.2533696	1.3600518	1.1434455	1.0925235	1.1668772	0.9653984	1.141398	1.028123	0.912772	0.912772	0.912772	0.912772	0.912772	0.912772
Activin receptor type II	0.82768077	0.7827063	0.4783095	1.422604	1.427812	1.204472	1.1888279	1.519578	1.8522221	0.8877763	0.67014194	0.9007335	0.9178551	0.959026
Glycine methyltransferase	1.003498	1.0828255	1.1153474	0.920771	0.9807304	1.0131443	0.9793517	0.82927483	0.69272727	0.8877763	0.67014194	0.9007335	0.9178551	0.959026
Phase-1 RCT-281	1.003498	1.0828255	1.1153474	0.920771	0.9807304	1.0131443	0.9793517	0.82927483	0.69272727	0.8877763	0.67014194	0.9007335	0.9178551	0.959026
Ciliary neurotrophic factor	1.00235	1.0913272	0.9733083	1.1524942	1.035003	0.9727726	0.9721814	0.9180043	0.91302555	0.9376988	1.128474	1.0986992	1.1790983	1.0477725
Gap junction membrane channel protein beta 1 (Gjb1)	1.4520847	1.670027	1.2591898	1.17787	1.0034227	1.131621	0.9400247	1.511387	1.069719	1.2774432	1.1175416	1.0791687	1.0683111	1.3499727
Phase-1 RCT-86	1.111195	1.098801	0.956688	1.1647955	1.3920116	1.057758	1.0335135	0.636562	1.0297145	0.6787764	1.0211611	0.6692649	0.6578818	1.453781
Phase-1 RCT-287	0.6799559	0.8218605	0.722557	0.7077923	0.9768881	1.0505288	0.961942	1.1892728	1.467422	1.2848513	0.85082	0.9427435	1.0710558	1.2319392
Retinol-binding protein (RBP)	0.6777509	0.7206498	0.91300464	0.5631312	0.8742087	0.908068	1.19427	0.5894545	0.6939324	0.70517548	0.7188229	0.6276484	0.830657	1.0971389
Very long-chain acyl-CoA synthetase	0.6126758	0.6996333	0.8924961	0.5178282	0.8717078	0.9809206	0.950961	1.306127	1.38478	1.1802658	1.1231556	0.8315652	1.0412644	0.9551895
Syndecan-1	0.823517	0.9534054	1.073365	1.0673054	0.985318	1.0651948	0.970321	1.3196887	1.38478	1.1802658	1.1231556	0.8315652	1.0412644	0.9551895
Stathmin	0.99498814	0.9722936	1.0725381	0.88833386	0.9274988	1.0357096	1.024344	1.287154	1.0188274	1.0188274	1.0188274	1.0188274	1.0188274	1.0188274
Phase-1 RCT-145	1.0146587	1.061242	1.3707421	0.8824171	1.1147068	1.1613819	1.131874	1.0381336	1.0416784	1.25864	1.186299	1.185325	1.38772	0.9717841
Phase-1 RCT-89	0.70116514	0.8088664	0.6738975	0.7889155	0.7889155	0.7889155	0.7889155	0.7889155	0.7889155	0.7889155	0.7889155	0.7889155	0.7889155	0.7889155
Sarcoplasmic reticulum calcium ATPase	0.81933045	0.91054845	0.9407387	1.0431494	0.9994877	1.0213064	0.9494547	0.8360649	0.7425657	0.7425657	0.7425657	0.7425657	0.7425657	0.7425657
Alpha-2-macroglobulin, sequence 2	0.60837245	0.7243561	0.6533154	1.1841588	1.0675273	1.1136976	1.1515889	0.752406	0.8263848	0.7356202	0.7517352	0.8389691	0.7402446	1.8653176
Phase-1 RCT-204	1.0048233	0.8917453	0.8917453	0.8917453	0.8917453	0.8917453	0.8917453	0.8917453	0.8917453	0.8917453	0.8917453	0.8917453	0.8917453	0.8917453
Vascular endothelial growth factor	0.9210019	1.0694557	1.0181059	1.232579	1.1143339	1.0733064	0.91696715	1.1249114	1.0750198	1.0464628	0.900285	1.0586287	0.9027808	0.7762065
NAD(P)-dependent isocitrate dehydrogenase, cytosolic	0.66397125	0.69811296	0.93944216	0.6731242	0.85180774	0.8695845	0.7618873	1.0742916	1.0506075	1.1625873	0.8700033	0.8569457	0.8915305	0.8718806
CNA binding protein inhibitor I02	0.9744039	0.7172056	1.3218611	1.0271237	0.8167857	0.993494	0.8743748	1.2445778	0.97332734	0.9453641	0.83224936	0.8744335	0.8987778	1.4791476
Glutathione S-transferase Ye	0.5968254	0.7380294	1.422342	0.7078739	1.014282	1.4112895	0.9306017	0.40884784	0.557287	0.4733658	0.36544788	0.4867188	0.42935157	0.458453
Epoxide hydrolase	0.6862233	1.0426885	1.4367034	0.9675008	1.1397141	1.0073879	0.8960568	0.8709174	0.8519018	0.7740325	1.7215178	1.3516474	1.058848	0.7630059
Insulin-like growth factor I	0.6110028	0.6483645	0.95551097	0.3940462	0.7515592	0.653443	0.715371	0.873808	0.8904376	1.1676702	0.9036402	1.00528	0.81827474	0.8206819
Proteinase H synthase	0.90953875	0.9116898	1.0112214	1.538016	0.8060365	0.8431253	0.8790062	0.8790062	0.8790062	0.8790062	0.8790062	0.8790062	0.8790062	0.8790062
Phase-1 RCT-136	0.8642812	0.8094587	0.91958076	1.0150054	1.0150054	1.0150054	1.0150054	1.0150054	1.0150054	1.0150054	1.0150054	1.0150054	1.0150054	1.0150054
Phase-1 RCT-137	0.61840427	0.6686874	0.6924071	0.58954755	0.8066044	0.7472117	0.92534447	0.45930366	0.5041655	0.5154074	0.5028202	0.7890884	0.8458243	0.9405988
Phase-1 RCT-138	0.6182489	0.6378238	0.6541856	0.7407295	1.0206772	1.033516	0.89411646	0.95941397	1.1484233	0.8435336	0.8116308	0.8116308	0.8116308	0.8116308
Phase-1 RCT-164	0.6981665	0.7349768	0.8509149	0.75147874	0.93522834	1.0351512	0.8824966	0.9860033	0.9861645	0.79955795	0.82074865	0.82074865	0.82074865	0.82074865
Glutathione S-transferase Y02 subunit	1.4633801	1.2708721	1.6432659	1.0683833	1.109288	1.200127	1.0233206	0.86782313	1.8161801	1.7384908	1.3339804	1.4616571	1.2701157	0.9591059
Carbonic dehydratase	1.2387751	1.4087931	1.6489731	1.2528102	1.185122	1.286607	1.1831788	0.8922905	0.8133255	0.97677295	0.9211098	0.8390087	0.9687765	0.6905391
Phase-1 RCT-166	1.1702813	1.0880737	1.2450741	0.8487852	1.003822	1.000805	1.0093033	1.095518	1.0200766	1.241116	0.9992509	1.1648948	0.9687765	0.6905391
Apolipoprotein E	0.7743144	0.6881282	0.6881282	0.7333866	0.7333866	0.7333866	0.7333866	0.7333866	0.7333866	0.7333866	0.7333866	0.7333866	0.7333866	0.7333866
UDP-glucuronosyltransferase	0.9701816	0.8791939	1.0558283	0.8047586	0.8545744	0.9517893	0.8249238	0.9464106	1.246587	1.388597	1.062414	1.088387	1.2957633	1.5228862
Glutathione S-transferase P1	1.048242	0.8791939	1.0558283	0.8047586	0.8545744	0.9517893	0.8249238	0.9464106	1.246587	1.388597	1.062414	1.088387	1.2957633	1.5228862
Disulfide isomerase related protein (ERp72)	0.624658	0.63090104	1.0645953	0.91300344	0.7226884	0.6868835	0.91053268	0.9619372	1.3666005	1.1474563	0.6311747	0.8345862	0.66925408	1.055566
Ribosomal protein L13	0.8981129	0.82707185	0.83557534	0.9649498	0.9197894	0.7831088	0.891138	1.9892227	1.613841	1.3904438	1.0236472	1.181807	0.8448622	0.7014891
Ceruloplasmin	0.6346778	0.7050508	0.8557534	0.9649498	0.9197894	0.7831088	0.891138	1.9892227	1.613841	1.3904438	1.0236472	1.181807	0.8448622	0.7014891
Inter-alpha-inhibitor 14 heavy chain (Ii14)	0.8243124	0.7371196	0.833308	2.462258	0.8918374	0.87248274	0.71424251	2.0220823	1.95615	2.3128557	1.5071385	1.8022881	1.5338816	1.6849502

Table 28

Phase-1 RCT-3	1,100,4384	1,150,1107	0,949,6611	1,055,8112	1	0,882,1086	0,980,2024	1,187,1992	1,181,0519	1,348,1963	1,252,4936	1,231,8784	1,549,9086	0,923,6476
Fetuin beta (Feu)	1,442,075	1,181,3881	0,974,5709	1,036,6832	1,265,1214	1,214,0459	0,980,2227	0,634,1905	0,904,0594	0,870,301	0,838,9841	0,772,1248	0,807,6151	0,762,44
3-hydroxyisovalerate dehydrogenase	0,791,66916	0,839,4354	0,792,855	0,775,1801	0,756,1801	0,884,804	0,884,804	0,827,7892	0,760,054	1,286,588	1,097,6995	1,149,7388	0,876,5065	1,105,5272
Carbonic anhydrase III, sequence 2	0,853,5327	0,897,4457	0,640,6056	0,634,6176	0,989,46077	0,897,4457	0,897,4457	0,827,7892	0,760,054	0,838,9841	0,772,1248	0,807,6151	0,762,44	0,753,973
Phase-1 RCT-10	0,681,78403	0,763,6202	0,748,77095	0,867,5251	0,91,889549	0,867,5251	0,867,5251	0,827,7892	0,760,054	0,838,9841	0,772,1248	0,807,6151	0,762,44	0,848,6281
Alpha-2-macroglobulin	0,646,948	0,890,24235	0,653,9981	0,24,538724	0,676,61186	0,743,37624	0,806,65736	0,82,499427	0,904,9912	1,149,6988	0,940,4478	0,584,2834	0,508,0018	1,188,923
Dynamin-1 (D100)	0,897,9196	0,960,4158	0,710,4977	0,750,78726	0,890,91105	0,897,3461	1,004,9634	0,82,499427	0,904,9912	1,149,6988	0,940,4478	0,584,2834	0,508,0018	1,188,923
Lysyl oxidase	1,222,88672	1,209,26	0,930,0742	1,228,897	1,130,8886	1,282,44	1,130,3527	0,950,42646	1,104,1814	1,114,3199	0,951,5135	0,769,4006	0,898,1461	1,049,1279
Phase-1 RCT-252	0,549	0,562,2666	0,403,2666	0,457,0657	1,464,1013	0,839,5504	1,332,7625	1,699,7423	1,680,4085	1,290,2386	1,091,8158	0,854,152	1,148,185	0,854,2397
Phase-1 RCT-29	0,578,70624	1,042,2392	0,904,3129	1,017,1836	1,001,7033	0,894,6002	1,332,7625	1,699,7423	1,680,4085	1,290,2386	1,091,8158	0,854,152	1,148,185	0,854,2397
Phase-1 RCT-278	0,807,2157	0,714,4883	0,671,4853	0,801,688	0,988,008	1,048,2868	0,976,9364	0,914,11793	0,934,356	1,232,588	1,604,3702	1,471,7383	0,912,7807	0,912,7807
Phase-1 RCT-25	0,852,511	0,893,437	0,950,8555	0,944,4034	1,228,4882	1,055,9804	0,976,9364	0,914,11793	0,934,356	1,232,588	1,604,3702	1,471,7383	0,912,7807	0,912,7807
Cytochrome P450 2C11	1,143,772	1,014,345	0,750,536	0,248,9312	0,712,871	0,709,03105	0,754,4719	0,821,1651	0,943,0202	0,836,9264	1,078,9897	1,089,1011	1,306,7367	1,306,7367
Phase-1 RCT-202	0,791,68828	0,821,1577	1,040,4505	0,824,8977	0,772,82506	0,837,581	0,869,5474	0,94,0693	0,945,9564	0,902,8864	0,870,9	0,843,5807	1,162,3174	1,162,3174
Complement factor I (CFI)	0,850,50229	0,7814,3075	0,785,58914	1,192,285	0,830,468	0,946,8711	1,447,292	0,750,4021	0,801,09733	0,824,2847	1,105,5951	1,437,3044	1,280,053	1,067,621
Proliferating cell nuclear antigen gene	0,955,90835	1,039,7887	0,715,3464	1,032,3837	1,056,2508	1,033,9541	1,447,292	0,750,4021	0,801,09733	0,824,2847	1,105,5951	1,437,3044	1,280,053	1,067,621
Activating transcription factor 3	1,395,6531	1,370,7942	1,057,8353	1,161,3007	1,265,1787	1,080,3887	1,980,3359	1,789,016	1,271,6281	1,511,3707	1,504,471	1,654,336	1,258,535	1,190,2968
Focal adhesion kinase (p125FAK)	0,862,27465	0,955,9454	0,885,7855	0,995,5055	0,969,0086	1,002,155	1,047,8146	0,952,8391	0,838,6084	0,94,18911	1,107,0491	1,167,7849	1,190,2968	1,190,2968
Phase-1 RCT-289	0,804,1027	0,767,6383	0,715,3464	1,080,1534	0,900,3491	0,878,7054	0,905,2573	0,639,3817	0,827,3439	0,626,1101	0,708,9505	0,498,2537	0,8197,219	0,894,0165
Phase-1 RCT-289	1,246,6689	1,085,518	0,973,7212	1,168,013	0,955,5508	1,004,111	0,874,9574	0,821,249	0,844,6205	0,747,548	0,967,0674	0,880,65	0,994,4357	1,181,106
Iron-responsive element-binding protein	0,723,09434	0,860,761	0,890,2442	0,935,09249	1,069,3336	0,880,74094	0,937,031	0,833,2914	0,827,3439	0,626,1101	0,708,9505	0,498,2537	0,8197,219	0,894,0165
MHC class II antigen RT1 A10 alpha chain	2,144,9192	1,449,6711	1,876,9574	1,478,1014	1,216,982	1,206,937	1,077,4136	0,827,3439	0,827,3439	0,626,1101	0,708,9505	0,498,2537	0,8197,219	0,894,0165
ATM autoantigen	0,804,00274	0,713,5035	0,772,2484	0,764,2835	1,030,97	0,918,3286	1,181,1036	0,827,3439	0,827,3439	0,626,1101	0,708,9505	0,498,2537	0,8197,219	0,894,0165
Phase-1 RCT-83	1,197,7684	0,851,4355	0,703,789	0,544,5538	0,674,2504	0,839,968	1,181,1036	0,827,3439	0,827,3439	0,626,1101	0,708,9505	0,498,2537	0,8197,219	0,894,0165
Phase-1 RCT-171	0,890,59134	0,744,272	0,710,72165	0,734,5063	0,720,9823	0,741,6329	0,839,968	1,181,1036	0,827,3439	0,827,3439	0,626,1101	0,708,9505	0,498,2537	0,894,0165
Colony-stimulating factor-1	0,695,585	0,837,081	0,951,97517	1,016,293	1,003,24	1,043,5354	1,127,1539	1,187,983	1,101,1813	1,054,188	0,807,4557	0,589,424	0,705,46155	0,701,44045
N cadherin	0,965,59435	0,909,3994	1,042,159	0,937,33	1,071,009	1,194,199	1,031,0034	1,443,611	1,104,9703	1,217,824	0,827,3439	0,827,3439	0,626,1101	0,708,9505
Phase-1 RCT-52	1,267,1018	0,993,4412	1,822,5497	1,953,1248	1,058,708	1,406,681	1,674,1659	0,827,3439	0,827,3439	0,626,1101	0,708,9505	0,498,2537	0,8197,219	0,894,0165
Phase-1 RCT-22	0,849,72817	0,87,92757	0,888,3826	1,249,031	1,302,7936	1,009,768	1,047,154	0,887,333	1,083,824	1,159,975	1,081,056	1,018,362	1,138,303	1,023,469
AT-3	1,043,1468	1,114,5523	0,990,231	1,009,708	1,026,454	0,887,333	1,083,824	1,159,975	1,081,056	1,018,362	1,138,303	1,023,469	1,023,469	1,023,469
Phase-1 RCT-18	0,938,9124	1,047,2413	0,97,038513	0,854,2507	0,830,3745	0,865,6294	0,878,5822	1,170,1256	1,188,242	1,196,8084	0,9784,1774	0,902,958	0,962,2339	0,765,352
Phase-1 RCT-123	1,032,1673	1,069,4202	0,918,2517	0,928,7655	0,96,3676	0,896,334	0,878,5822	1,170,1256	1,188,242	1,196,8084	0,9784,1774	0,902,958	0,962,2339	0,765,352
Phase-1 RCT-66	0,907,90786	0,797,8167	0,837,35516	0,87,39059	0,814,13084	0,878,5822	1,170,1256	1,188,242	1,196,8084	0,9784,1774	0,902,958	0,962,2339	0,765,352	0,765,352
Equilibrative nucleoside/nucleotide-sensitive nucleoside transporter	0,748,509	0,746,4234	0,653,8464	0,744,1644	1,155,411	1,152,297	0,956,1624	1,001,9403	1,020,9634	0,489,27075	0,583,4581	0,458,9059	0,648,4356	0,724,9804
Glucose transporter 2	1,021,179	0,954,4595	1,267,401	0,936,473	1,155,411	1,152,297	0,956,1624	1,001,9403	1,020,9634	0,489,27075	0,583,4581	0,458,9059	0,648,4356	0,724,9804
Mutating resistant protein-2	0,890,0694	1,021,3908	1,355,3312	1,506,206	0,982,6735	1,343,134	0,956,1624	1,001,9403	1,020,9634	0,489,27075	0,583,4581	0,458,9059	0,648,4356	0,724,9804
Mutating resistant protein-1	1,121,5538	0,832,468	1,520,8178	1,800,696	1,07,82455	1,37,9225	1,000,338	1,487,79	1,591,129	1,227,5475	1,34,5637	1,653,187	1,653,187	1,653,187
Protein tyrosine phosphatase-binding protein	1,449,093	1,223,3329	1,438,5514	1,989,151	1,094,782	1,281,24	1,187,983	1,167,923	1,062,433	1,010,1433	0,802,3219	0,948,924	1,554,5673	1,554,5673
Phase-1 RCT-160	0,978,7454	1,051,127	1,548,451	1,24,5472	1,336,963	1,294,637	1,174,383	1,040,6502	1,057,89	1,097,2698	1,033,3397	1,107,9508	1,128,559	1,128,559
Insulin beta-4	1,253,141	1,356,333	1,174,44	1,258,73	1,042,933	1,040,067	1,121,9943	0,963,1824	0,941,30534	0,87,2072	0,943,0666	0,823,188	1,046,5541	1,046,5541
MDMP cytochrome P450 oxidoreductase	2,470,575	3,029,0654	2,850,774	1,17,18746	1,287,4534	1,048,917	1,140,027	1,239,516	1,123,9822	1,225,9748	2,281,7433	1,581,113	1,504,5872	1,504,5872
Wnt	1,197,646	0,917,007	1,453,0799	1,167,5523	1,095,205	1,029,252	1,100,8839	0,714,1536	0,712,1161	0,856,5785	0,841,6848	0,765,598	0,851,1283	0,851,1283
Endogenous retroviral sequence, 5' and 3' LTR	1,177,646	0,917,007	1,453,0799	1,167,5523	1,095,205	1,029,252	1,100,8839	0,714,1536	0,712,1161	0,856,5785	0,841,6848	0,765,598	0,851,1283	0,851,1283
Phase-1 RCT-53	0,865,7089	1,002,523	0,928,6314	0,775,5856	1,032,463	0,830,268	1,047,2519	0,832,6086	0,8152,188	0,628,92205	0,721,6214	0,531,1535	0,816,5822	1,151,1529
Phase-1 RCT-54	1,206,0772	1,231,2205	1,120,5593	0,9584,69	1,061,5058	0,952,2696	1,075,6326	1,250,083	0,815,1868	0,907,618	1,067,8174	0,965,2407	0,867,351	1,010,4486
Osteopontin	0,576,6336	0,7151,236	0,787,447	0,827,72815	0,991,8158	1,050,807	1,342,5593	1,291,5821	0,851,4868	0,977,28387	0,707,7988	0,5907,1895	0,682,50245	1,068,932
Organic anion transporting polypeptide 1	0,8424,167	1,290,6117	0,853,117	0,767,1586	1,204,9053	1,139,0697	0,431,24405	1,253,85	1,048,59	0,739,2674	0,9129,1463	0,806,6232	0,852,66393	1,357,6423
Phase-1 RCT-241	1,128,794	1,248,865	1,182,2113	1,015,152	1,1147,158	1,048,7318	1,074,939	0,546,1424	1,034,8308	0,739,2674	0,9129,1463	0,806,6232	0,852,66393	1,357,6423
Tissue factor pathway inhibitor	1,140,2266	1,300,5622	0,912,2771	2,056,862	0,897,8923	0,888,6217	1,1288,01	1,148,9684	1,369,6585	1,546,656	1,721,1186	2,033,5976	1,702,519	1,045,9596
Cytin-dependent kinase 4 inhibitor P27hap (differential)	1,248,96	1,296,344	1,490,947	1,462,512	1,216,461	1,346,5391	1,211,8136	1,409,5196	1,529,458	0,949,94156	1,251,0144	1,316,0495	1,334,3008	0,960,2382
Glucose transporter 2	1,162,049	1,201,812	1,181,015	1,31,5819	1,094,312	0,981,6838	0,967,0945	0,871,8915	0,742,02114	0,887,7308	0,824,5708	0,826,9465	1,255,2115	1,248,1617
Phase-1 RCT-39	1,163,477	1,287,8031	1,181,015	1,162,042	1,025,871	0,954,9434	1,07,4575	0,71,13272	0,152,264	0,152,264	0,152,264	0,152,264	1,553,9032	0,958,1833
Phase-1 RCT-258	0,987,784	0,943,9964	1,201,064	1,201,064	1,201,064	1,201,064	1,201,064	1,201,064	1,201,064	1,201,064	1,201,064	1,201,064	1,201,064	1,201,064
Phase-1 RCT-113	1,10326	1,176,958	1,194,695	1,067,934	1,067,934	1,067,934	1,067,934	1,067,934	1,067,934	1,067,934	1,067,934	1,067,934	1,067,934	1,067,934
Adenine nucleotide translocator 1	0,823,36273	1,001,5508	0,97,388124	0,885,724	1,2821	1,131,9662	0,940,0956							

Organic cation transporter 3	0.76587884	0.78229594	0.9605683	1.0090204	0.977807	1.0540618	1.1498824	0.8716533	0.9737176	1.0037582	0.94701785	0.98328555	1.1399104	0.9992174
Hypoxia-inducible factor 1 alpha	1.0133915	1.0342407	0.9759865	1.2033443	1.2401127	0.9720047	1.2273028	1.4459833	1.2650793	0.914703	1.0607814	0.8633863	0.8833886	1.0268269
Phase-1 RCT-43	1.282331	1.0679573	1.1386891	0.8874074	1.0391033	0.9690876	1.1270868	1.0472872	1.0727459	1.055149	0.9578203	0.8288704	0.9075623	1.0375033
Phase-1 RCT-45	1.0554063	1.1144654	1.1111555	0.8863482	1.031343	1.3047866	1.0251353	1.1370989	1.0530446	1.0504092	0.8053949	1.0588139	0.9871783	1.0051788
Mutator dehydrogenase, cytosolic	0.5623552	0.65085196	0.7855637	0.9621445	1.4420857	1.2929433	1.1796053	0.9817881	0.940132	0.951898	0.8559116	0.828168	0.90603586	1.0659502
VL30 element	1.1431311	0.9483119	0.9422341	1.1464659	1.5042252	1.7297396	1.3237282	1.1145882	1.0387837	0.714420	1.0260726	0.968102	1.1333778	1.1610421
Phase-1 RCT-169	0.8390963	0.7194647	0.7471699	0.8826841	0.9175332	0.7733654	0.8761932	1.2687332	1.4668841	1.0037462	0.9052246	0.95181155	0.8965341	0.9771656
Alpha-fetoprotein	0.81203383	0.76710016	0.788234	0.8970005	0.8956628	0.9944438	1.1103568	1.128138	1.078795	1.2226522	1.0546225	1.0181504	1.3550436	0.7643105
Calgranulin B	0.7442076	0.6825603	0.8144553	0.3558821	1.032233	0.9167333	0.7617624	1.0354589	1.1625705	1.2168126	0.917895	1.140098	0.97937008	0.9138268
Tissue plasminogen activator	0.9073392	0.9480187	0.8882404	0.7071688	0.7613868	0.8776083	0.9038263	1.1744255	1.2688056	1.2956125	1.1070098	1.1493487	1.2125367	0.7712094
Phase-1 RCT-185	1.3698378	1.3555295	0.86590636	0.65531213	1.0625063	1.0825924	1.156161	1.0912263	1.1272228	1.0275407	0.7874819	0.79679084	0.9105379	1.0838442
Liver fatty acid binding protein	0.4969068	0.5101045	0.5856427	0.6687815	0.901785	0.8654385	0.86778104	0.9247173	0.9941555	1.0067363	1.000149	0.8993475	0.781897	0.86745275
Alpha-1 microglobulin/albumin precursor (unbp)	0.7180993	0.6856427	0.6856427	0.6687815	0.88041574	0.8635564	0.86778104	0.9427173	0.9941555	1.0067363	1.000149	0.8993475	0.781897	0.86745275
Phase-1 RCT-284	1.1385735	1.086518	0.977747	0.901785	0.8654385	0.86778104	0.9427173	0.9941555	1.0067363	1.000149	0.8993475	0.781897	0.86745275	1.0178962
Phase-1 RCT-151	0.989782	0.9451278	1.000359	1.188238	0.89858158	0.9702015	0.89802396	1.1881213	1.0612668	1.0445881	1.0830485	0.9275726	0.9642464	1.5457531
Phase-1 RCT-150	1.0982581	1.2485065	1.054092	1.1548774	1.1489288	1.1314901	1.2286891	1.088191	1.2011724	0.94583476	1.1972719	1.0055328	0.9647307	1.0389898
Phase-1 RCT-221	0.9580409	0.9612153	1.095486	0.959486	0.9702808	0.9877398	1.1619221	1.2154778	1.0733045	0.99972	0.87191916	0.89256886	0.8119783	1.0187305
Phase-1 RCT-235	0.9249013	0.94620645	1.4035009	0.8939217	0.9704361	0.9576118	1.1285045	1.529025	1.5881635	1.254065	1.2152145	1.0652811	1.0025394	0.9504421
Oxidic anion transporter 3	0.829583	1.2796919	0.69155436	0.5050325	0.94626683	1.0071723	0.9839194	1.0345874	0.91465247	0.807899	0.83588024	0.86124605	1.1353787	0.9410885
Matrix metalloproteinase-1	0.9343071	0.84529687	1.1796382	1.103358	0.8168539	1.1973447	1.0425521	0.9651782	0.9857169	1.2681138	0.99606884	0.86124605	1.1353787	0.9410885
Urinary protein 2 precursor	0.4882856	0.48683107	0.5021033	0.41164555	0.5088361	0.39193463	0.62361175	0.45497027	0.6073489	0.70288105	0.7147362	0.6004689	0.84482343	1.0116594
Phase-1 RCT-212	1.2218957	1.1195118	1.1763489	1.1240487	1.0815476	1.043943	0.9318655	0.77701235	0.6881351	0.6256831	0.71760398	0.7221816	1.0439868	0.9715513

(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 18).

(2) Compound and dose abbreviations as in Table 1.

(3) Individual animal number

(4) Liver inflammation classification for compound-dose group at 72 h: yes=neut, necrosis observed; yes=both, necrosis with inflammation observed; no, no histopathology observed

(5) Predictive gene (as in Table 18 and as included in Table 25)

Table 28. Expression Data for 6 Hour Timepoint (1)															
Compound/Dose (2)	CIS 2.5	CIS 3.3	CIS 10	CIS 10	CIS 10	CIS 10	CIS 10	CIS 10	CIS 10	CIS 10	CIS 10	CIS 10	CIS 10	CIS 10	CIS 10
Animal Number (3)	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Uter Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Geno Name (5)	1.5255641	0.98279764	2.0935564	1.2717338	1.4697685	1.635553	1.6682786	1.6886828	1.1164829	1.5884657	1.1698874	1.4768254	1.07835	1.3163824	1.07835
Interleukin growth factor binding protein 1	1.6692156	1.4777894	1.684515	1.3535161	1.3058107	1.0652044	0.80280364	0.94320427	0.96089756	1.1410654	0.83742305	1.1182563	0.9448782	1.0050019	0.9448782
Casid (53)	1.1358466	0.8760836	1.3631748	1.3988105	1.2821947	1.40539675	0.74483806	1.076347	1.1188996	1.0484416	0.8146183	0.726537	0.95674175	0.7177096	0.95674175
C-MYC	1.2489318	0.9714177	0.97947216	0.8894091	1.0045447	0.9482859	0.9880772	1.2305856	0.83564846	0.8146183	0.80918814	1.0852883	1.2332701	1.0047791	1.0852883
NIPK	1.137962	1.2705058	1.4486492	2.800217	1.8524583	1.86285214	1.1655511	1.0741558	1.0183332	1.0473108	0.975472	1.0766688	1.0210677	1.0210677	1.0766688
Cathepsin L sequence 2	3.0185418	1.5942484	1.6848624	2.800217	1.8524583	1.86285214	1.1655511	1.0741558	1.0183332	1.0473108	0.975472	1.0766688	1.0210677	1.0210677	1.0766688
Heme oxygenase	1.0218907	1.0670938	1.0749619	0.95952815	1.1057861	1.3953303	1.8476527	1.0713253	1.0741558	1.0183332	1.0473108	0.975472	1.0766688	1.0210677	1.0766688
Phase-1 RCT-109	0.87119923	0.9789893	0.8324713	0.8617486	0.92697245	1.2062409	1.2807934	1.2489318	1.2489318	1.2489318	1.2489318	1.2489318	1.2489318	1.2489318	1.2489318
Phase-1 RCT-111	0.87119923	0.9789893	0.8324713	0.8617486	0.92697245	1.2062409	1.2807934	1.2489318	1.2489318	1.2489318	1.2489318	1.2489318	1.2489318	1.2489318	1.2489318
Angiotensin-converting enzyme	0.6047032	0.6987714	0.8095209	0.8078074	0.7143409	1.0030717	0.44145042	1.2489318	1.2489318	1.2489318	1.2489318	1.2489318	1.2489318	1.2489318	1.2489318
DNA polymerase beta	1.3011735	1.0075828	1.3923858	1.2837437	1.4401125	0.92101336	1.0625337	0.88504306	0.9490248	1.020123	0.7759283	0.89522725	0.94444776	0.9975163	1.0044513
Phase-1 RCT-103	0.90710765	1.0842687	0.8456517	0.9198717	1.0287205	1.1350093	1.2582362	0.9490248	0.9490248	0.9490248	0.9490248	0.9490248	0.9490248	0.9490248	0.9490248
Ribosomal protein S9	1.3376938	1.8785599	1.3075952	1.1014208	1.2195019	0.97873694	0.82476616	0.8723566	0.83594615	0.82371324	0.769631	0.8284745	1.111638	0.9711008	1.111638
Phase-1 RCT-114	1.3376938	1.8785599	1.3075952	1.1014208	1.2195019	0.97873694	0.82476616	0.8723566	0.83594615	0.82371324	0.769631	0.8284745	1.111638	0.9711008	1.111638
Phase-1 RCT-115	2.203672	1.6124748	2.5848107	1.953651	1.8956531	1.1780736	0.8423352	1.0143719	1.0055814	0.9688541	0.9789026	1.3952432	1.166538	0.95034724	1.3952432
Macrophage inflammatory protein-2 alpha	3.5259134	1.5711637	6.510779	5.254986	2.702853	1.3815868	0.7928951	0.73326623	0.90331924	0.7485885	0.9462527	1.0810547	1.1090052	1.14337	1.0810547
NGF-inhibitory anti-proliferative putative secreted protein (PC3)	1.8542887	1.2825193	3.7288678	4.5822386	5.0091543	1.108902	1.467495	1.0197838	0.9825846	0.7283582	0.9459561	1.049002	1.1530355	0.91202845	1.049002
Phase-1 RCT-181	1.4220466	1.177894	1.3165503	1.2402331	1.1853268	1.0850513	0.5005803	0.3375388	1.0335883	1.117763	0.86251065	1.184213	1.0848047	0.8748014	1.184213
Phase-1 RCT-63	0.9707567	1.057925	1.1661088	1.1781879	1.0542506	1.4071895	0.8423515	1.0367173	0.8282273	0.7232411	0.7232411	0.8904946	1.1715337	1.008765	0.8904946
Cyclin D3	1.3884826	1.4339898	1.0418196	1.834025	1.305898	1.0406549	1.1629362	1.0635088	0.3816981	0.8571906	0.8571906	0.8571906	0.8571906	0.8571906	0.8571906
Phase-1 RCT-108	0.9533886	1.0530416	0.9157331	1.4339898	1.0479708	1.0745203	1.0745203	1.0745203	1.0745203	1.0745203	1.0745203	1.0745203	1.0745203	1.0745203	1.0745203
Phase-1 RCT-56	1.5533084	1.3516098	1.913798	1.4300406	1.6135039	0.74336684	1.059741	0.8654418	0.8654418	0.8654418	0.8654418	0.8654418	0.8654418	0.8654418	0.8654418
Phase-1 RCT-192	1.1538577	1.2775072	1.1901378	1.295087	0.88148954	1.0239148	0.98040277	1.0054438	0.9655178	0.7747017	0.7747017	0.7747017	0.7747017	0.7747017	0.7747017
Phase-1 RCT-75	1.2807046	1.6246802	1.0086026	1.0018318	0.8330166	0.8443353	1.1103008	0.90710644	0.90710644	0.90710644	0.90710644	0.90710644	0.90710644	0.90710644	0.90710644
Acetyl-CoA carboxylase	0.86535494	1.076867	0.8457597	0.857531	1.004262	1.0843498	1.1653297	0.9296307	0.9296307	0.9296307	0.9296307	0.9296307	0.9296307	0.9296307	0.9296307
Phase-1 RCT-45	1.6599184	1.267744	1.1509801	1.3050575	1.6484093	0.87138474	1.2302383	1.2781053	0.9582103	0.9582103	0.9582103	0.9582103	0.9582103	0.9582103	0.9582103
Phase-1 RCT-48	0.9735285	0.9074769	1.028709	1.0739723	0.809533	0.8598891	1.0074778	1.5625543	0.9719068	1.0246946	0.9517869	1.1515337	1.0001892	0.9517869	1.1515337
Phase-1 RCT-16	1.3935884	0.96531564	2.0758855	2.1534743	1.7632583	1.4377085	1.0549632	0.87220746	1.0274822	0.8743778	0.88770805	0.8946881	0.83584214	1.03506	0.8946881
Phase-1 RCT-156	0.87328843	1.0282118	0.8438874	0.8755758	1.0171106	1.0381317	1.0549632	0.87220746	1.0274822	0.8743778	0.88770805	0.8946881	0.83584214	1.03506	0.8946881
Phase-1 RCT-127	1.0758145	1.3280352	1.443341	0.9833320	1.428738	0.7881054	1.2989718	1.102518	1.0005563	0.9495563	1.0664808	0.8375743	1.0772632	0.8225645	1.0664808
Macrophage inflammatory protein-1 alpha	1.1828245	0.80317885	1.572121	0.7555384	1.2841184	1.0470881	0.6532739	0.92040394	0.9406882	1.035419	0.9452175	0.9189344	0.7687463	0.84956175	0.7687463
Zinc finger protein	2.1485486	1.1880169	3.0701125	1.2276562	3.362819	0.8650623	0.92040394	0.9406882	1.035419	0.9452175	0.9189344	0.7687463	0.84956175	0.7687463	0.84956175
Phase-1 RCT-73	0.8796079	0.8666431	0.7995213	0.84890465	0.91638064	1.1911749	1.0821588	1.1916877	1.047949	0.9777858	1.077936	1.0677729	1.294429	1.0452861	1.047949
Glutamine synthetase	1.1382331	1.4118668	1.0244578	0.94585145	1.1529843	0.9984097	1.1693631	0.9126689	0.8225993	1.0531967	0.8729375	1.0046908	0.7458022	0.9876569	1.0046908
Glutamine synthetase	0.8196399	0.7814235	0.82316214	1.072345	0.7397378	0.86455127	1.2008616	0.8601201	0.7414723	0.52302766	0.75379	1.0130828	1.3614047	1.1229583	0.75379
Phase-1 RCT-242	2.30323	0.874168	3.7794254	6.070761	4.649068	0.97587514	1.2002912	0.7302912	0.9030353	0.9870956	0.80151435	0.9241944	0.8375161	0.9321785	0.9020701
Phase-1 RCT-60	1.687145	1.2421951	1.6245226	1.4912687	1.613278	1.0215045	0.80988824	0.9130222	0.9042951	1.0352182	0.98895384	0.91801095	1.027393	0.9101507	0.91801095
Phase-1 RCT-1	1.0774795	1.1615913	1.0135876	1.0465158	1.2029771	1.0200361	1.4630358	0.9130222	0.9042951	1.0352182	0.98895384	0.91801095	1.027393	0.9101507	0.91801095
Interleukin beta1	0.6970035	1.0962051	0.95725816	1.0701771	1.0992353	1.2558843	1.1401287	1.2200412	1.0537893	1.1159844	1.1123301	1.3405237	1.605306	1.111859	1.1123301
Interleukin-like growth factor binding protein 5	1.2503893	1.167494	1.1649166	1.0380919	0.94186826	1.3210574	0.7895322	1.0088153	1.0686221	1.125197	0.8913377	0.9321231	0.9548619	0.9069224	0.8913377
Phase-1 RCT-59	1.4307327	1.0592649	3.1518254	2.462888	3.713464	1.104827	0.85027504	1.022412	1.077858	1.0592402	1.235905	0.690686	0.98969343	0.82620886	1.0592402
Phase-1 RCT-76	0.83145	0.89407	0.79828	0.8570732	0.9654125	1.1872213	1.1403537	1.1291839	1.1703888	1.0176351	0.9766	0.8375465	0.8737258	0.7811285	0.8375465
Fertilin H chain	0.9496385	1.2013538	1.1310893	1.0278756	1.2717515	0.8541849	0.81183335	0.7862865	1.0074894	0.74950796	1.0748004	1.0580436	0.97488123	1.0133328	1.0580436
Selenoprotein P	0.9845769	0.902002	0.8070896	0.7502064	0.8804153	0.840899	0.8346895	0.8675863	0.6872416	0.6875863	0.6875863	0.6875863	0.6875863	0.6875863	0.6875863
PTEN/MMAC1	0.78672135	0.8353693	0.9084015	0.78551036	0.86275784	1.1643944	1.088431	1.088431	1.088431	1.088431	1.088431	1.088431	1.088431	1.088431	1.088431
Phase-1 RCT-112	0.76261127	0.874226	0.73480594	0.9333508	0.8406635	1.0219152	0.8623588	0.6966884	0.9631343	0.7842371	1.0402288	1.0061638	0.8410083	0.7887777	0.7842371
Phase-1 RCT-114	0.80671495	0.8954931	0.84607416	0.7870787	0.7870787	0.7870787	0.7870787	0.7870787	0.7870787	0.7870787	0.7870787	0.7870787	0.7870787	0.7870787	0.7870787
Thymidine synthase	0.6737663	0.924723	1.8819767	1.846705	1.143121	1.0171559	0.8160426	0.9509089	1.0589089	1.072227	0.943988	1.2396671	1.0686861	0.938582	1.0686861
Phase-1 RCT-13	2.0117311	2.2180352	2.8681448	1.88110816	1.0349048	1.323784	4.6346677	1.2842755	0.95663154	0.78685076	0.80743554	0.8375161	0.9321785	0.9321785	0.8375161
Nucleosome assembly protein	0.56762823	0.72018875	0.63013005	0.6103741	0.72481723	0.2808947	0.59872926	0.8471167	0.98756877	1.161672	0.9309568	2.6290751	1.437689	0.93563527	0.9876569
Cholesteryl 7-alpha-hydroxylase (P450 VII)	0.4078423	0.44329342	0.5937387	0.5937387	0.2788723	0.7894184	1.1176172	0.9356333	1.1176172	0.9356333	1.1176172	0.9356333	1.1176172	0.9356333	1.1176172
Vesicular monoamine transporter (VMAT)	0.9534271	1.0336556	1.0237011	0.8655788	0.911116	1.00300921	1.0554								

Phase-1 RCT-32	1.1902665	1.1410105	1.136576	0.8589768	1.083733	1.471168	0.8021473	1.3796704	0.9999713	1.5827163	1.5354285	1.1712568	1.1627493	1.153633
Peroxidase assembly factor 1	1.0117518	0.99887925	0.9647705	0.93516177	0.8939352	1.1861089	1.001468	1.353737	1.0345227	1.1877643	1.0111289	0.9881041	1.0807862	0.8938582
8-oxoquinoline DNA glycosylase	1.0533049	1.0239644	0.9740443	0.9763519	1.1077858	0.9777014	0.9777014	1.077858	0.9451395	1.0103324	0.863728	0.9433642	0.901842	0.88337873
Phase-1 RCT-42	0.893941	0.96845325	0.939314	0.968693	0.90605676	0.9461124	0.9701719	1.0111241	0.9453846	0.9813026	0.9561508	0.9802397	0.82462405	0.82462405
Matrin F/G	0.4650415	0.61185252	0.541155725	0.4443504	0.46843138	1.3445771	1.3308437	1.2895667	0.94614325	0.9162348	0.9087335	0.9465497	0.9887434	0.88130695
Phase-1 RCT-184	1.198853	1.1408252	1.1600663	1.215173	1.1189003	0.8191617	0.8798335	0.94614325	0.9162348	0.9087335	0.9465497	0.9887434	0.88130695	0.88130695
Phase-1 RCT-168	0.544033	0.85919055	0.53078234	0.5121778	0.4779334	1.0402095	1.3195096	0.9708941	1.104003	1.0786991	1.1120517	1.0917629	0.9519735	1.012582
Phase-1 RCT-119	0.49367675	0.8560804	0.6704112	0.6299486	0.6592264	0.55716153	0.8699736	1.082693	0.94614325	0.9162348	0.9087335	0.9465497	0.9887434	0.88130695
Carbonic anhydrase II	0.49143778	1.01187402	0.6542819	0.8805299	0.7144324	0.86422074	0.8824883	0.991388	0.9995314	1.079573	1.2054516	1.0914002	1.4856552	1.3840713
Hydroxymethylglutaryl-CoA lyase	0.8779606	0.96743724	0.8550698	0.901765	0.92709196	0.9488192	1.0501238	1.0651686	0.97894603	1.149539	1.0938791	1.0914002	1.4856552	1.3840713
Phase-1 RCT-179	1.5333955	0.9619578	1.37528	1.7589474	1.1558181	1.4054131	1.0501238	1.0651686	0.97894603	1.149539	1.0938791	1.0914002	1.4856552	1.3840713
Phase-1 RCT-171	0.840846	0.932438	0.92822624	0.94555967	0.7725703	0.8508647	0.5625117	0.63291725	0.934336	1.1194715	1.2587573	0.7993948	0.8837158	0.8002781
Phase-1 RCT-207	1.1799663	1.1396152	2.3001273	1.2054566	1.246907	0.95384487	0.8985897	1.1339621	1.0316937	1.5294158	1.3006688	0.9013122	0.9003455	0.9002781
Phase-1 RCT-144	1.760144	1.4925249	1.826263	1.858191	2.170398	1.2780149	1.506084	1.175432	0.9510142	1.063542	0.9311223	1.1164808	0.84731406	0.84731406
Cyclodextrin P450 2E1	0.8157286	0.9160053	0.7208829	0.64104768	1.0884566	1.0894042	0.90755344	1.303385	1.0680745	1.200954	1.182457	0.7023864	0.89477945	0.8721454
D-1	0.8157286	0.9160053	0.7208829	0.64104768	1.0884566	1.0894042	0.90755344	1.303385	1.0680745	1.200954	1.182457	0.7023864	0.89477945	0.8721454
Thrombosin-1 (Tbx1)	0.8157286	0.9160053	0.7208829	0.64104768	1.0884566	1.0894042	0.90755344	1.303385	1.0680745	1.200954	1.182457	0.7023864	0.89477945	0.8721454
Carbonic anhydrase III	0.27920073	1.3774556	0.8853362	0.824315	0.76839623	0.95410043	0.8143949	1.0285566	0.8569467	0.9635276	1.011168	1.0360957	0.8909796	0.8909796
Phase-1 RCT-140	0.8957835	0.85527575	0.8853362	0.824315	0.76839623	0.95410043	0.8143949	1.0285566	0.8569467	0.9635276	1.011168	1.0360957	0.8909796	0.8909796
Complement component C3	1.137679	1.2642775	1.0356594	0.8673435	1.065287	1.0015546	1.175971	1.5373767	0.8913363	1.2202065	0.8630657	0.76989193	0.8701633	1.145472
Glucokinase	0.8685898	1.9152843	0.8090051	0.7693045	0.8177193	0.800473	1.175971	1.5373767	0.8913363	1.2202065	0.8630657	0.76989193	0.8701633	1.145472
Phase-1 RCT-173	0.80458917	0.9310573	0.63781405	0.68132164	1.0842451	0.862765	0.8346873	1.1374375	1.0984818	1.2526715	1.3574352	0.8154906	0.70991	0.9215103
3-methyladenine DNA glycosylase	1.0555558	0.87418508	0.9865667	0.94653305	0.841987	0.9192881	1.1195257	0.8665922	0.9035594	1.0320196	1.2526715	1.3574352	0.8154906	0.70991
Peroxidase multifunctional enzyme type II	1.024654	1.422823	0.9317708	0.8371591	1.015255	1.3463954	1.448558	1.1875936	0.6893386	0.62836045	1.2235665	1.2326776	1.3282776	1.2846198
Phase-1 RCT-40	0.6995953	0.9626746	0.4342715	0.42317817	0.7242052	0.983813175	0.9253377	0.9253377	0.4211526	0.47486246	1.572512	1.6342572	0.8743053	0.8743053
Sensescence marker protein-30	2.5876628	2.8529127	6.4126863	5.324824	5.123427	1.9055228	0.8432514	0.9488641	0.9674813	1.4618573	1.0295708	1.0569988	0.8909796	0.8909796
Cyclin G	1.136886	1.1213249	1.2892627	1.2892627	1.574142	0.9445663	1.078673	0.900534	0.922632	1.4581413	1.0295708	1.0569988	0.8909796	0.8909796
Phase-1 RCT-28	1.2132034	0.9113279	1.0882253	1.065	0.8600757	0.9787427	1.0787427	1.0787427	0.9787427	1.0787427	1.0787427	1.0787427	1.0787427	1.0787427
Alcohol dehydrogenase 1	0.37811628	0.38788966	0.254639	0.9256507	0.8386042	0.8919016	1.3849081	0.9849081	0.9849081	0.9849081	0.9849081	0.9849081	0.9849081	0.9849081
Stem cell factor	0.94652184	0.95127765	0.75748063	0.6915466	0.8386042	0.8919016	1.3849081	0.9849081	0.9849081	0.9849081	0.9849081	0.9849081	0.9849081	0.9849081
Protein tyrosine phosphatase alpha	1.1231606	0.95421386	1.1187487	1.1883307	0.8225234	0.885317	0.885317	0.885317	0.885317	0.885317	0.885317	0.885317	0.885317	0.885317
Phase-1 RCT-55	0.71084166	1.3615169	1.344485	1.213102	1.3712791	0.965292	0.8731315	0.8731315	0.8731315	0.8731315	0.8731315	0.8731315	0.8731315	0.8731315
Ubiquitin conjugating enzyme (RAD 6 homologue)	1.3759131	1.3615169	1.344485	1.213102	1.3712791	0.965292	0.8731315	0.8731315	0.8731315	0.8731315	0.8731315	0.8731315	0.8731315	0.8731315
DNA topoisomerase I	1.2730844	1.3691139	1.065544	0.6405466	0.70299134	0.98804735	1.0670675	1.0039196	1.0187759	0.9594681	0.8144008	0.9713705	0.8575961	1.0185472
Super-1 RCT-290	1.0901717	0.8774566	1.065544	0.6405466	0.70299134	0.98804735	1.0670675	1.0039196	1.0187759	0.9594681	0.8144008	0.9713705	0.8575961	1.0185472
Super-1 RCT-141	3.100952	2.178557	3.1054919	2.423782	2.524537	1.382783	1.7268521	1.3459438	0.8853524	1.2521008	1.098552	1.403422	1.2553702	1.1856072
Beta-tubulin, class I	1.811546	2.1502948	0.952566	0.77519396	0.825628	0.87211144	1.1575936	1.0227158	1.1661378	0.86593356	1.2952319	0.874978	1.0378519	0.96768975
Carbamoyl phosphate synthetase I	0.38624694	0.8223444	0.952566	0.77519396	0.825628	0.87211144	1.1575936	1.0227158	1.1661378	0.86593356	1.2952319	0.874978	1.0378519	0.96768975
Diacylglycerol kinase zeta	4.898293	4.997591	1.2859604	1.2859604	1.2941039	1.3517602	1.2941039	1.3517602	1.2941039	1.3517602	1.2941039	1.3517602	1.2941039	1.3517602
Phase-1 RCT-141	1.1328411	1.2859604	1.2859604	1.2859604	1.2941039	1.3517602	1.2941039	1.3517602	1.2941039	1.3517602	1.2941039	1.3517602	1.2941039	1.3517602
Gamma-actin, cytoplasmic	0.4670903	0.89437487	0.7690076	0.7294197	0.8560896	0.9831117	1.122728	0.854487	1.036524	0.5595815	0.7914147	0.893161	0.7245044	0.7319123
Ribosomal protein L13A	1.0296408	1.0766726	1.1738036	0.9929432	1.1535815	1.7831101	1.7414174	1.6344085	1.3864813	1.4453322	1.1761609	0.9804566	1.0289431	1.328166
Phase-1 RCT-65	1.0884659	0.9324543	1.0161432	0.9639654	0.9840442	1.059822	1.078235	1.3892164	0.9395621	1.2351665	0.9285104	0.9505705	1.3164803	1.082775
Calin	1.7973676	0.8263285	1.4880482	1.853949	1.1067829	1.459594	0.9840442	1.059822	1.078235	1.3892164	0.9395621	1.2351665	0.9285104	0.9505705
Protein O-mannosyltransferase 1 (Pmt1)	1.0428499	0.8902659	0.8865583	1.1610263	0.74700415	1.1600987	0.60924286	0.97775916	1.2129555	1.1839662	1.0810723	2.2510528	0.9622853	0.9591188
HMG CoA reductase	0.6843324	0.67170187	0.5413084	0.8544123	0.6142057	1.3200636	0.9231983	1.1810055	1.0690053	1.4385532	1.2138932	0.8391464	0.7904911	0.97306406
Phase-1 RCT-12	1.2104948	1.0170282	1.0188113	1.0373377	0.8743881	1.1471839	0.7148388	0.94656785	1.0334802	1.0506899	0.9575948	1.123463	1.123172	1.0282806
Interferon related developmental regulator 1 (IFRD1)	0.9431457	1.1955108	0.9815454	1.1182793	1.1427512	0.9723883	1.4594812	0.97145396	0.88102674	0.71825814	0.77481776	1.0875887	1.2180628	0.937407
Glucose-regulated protein 78	1.3733548	1.3628829	0.57041415	0.48748774	0.80595847	1.5286519	1.795371	1.128593	0.97840725	1.0476514	0.9453183	1.3657128	1.3592848	1.2858833
3-beta-hydroxysteroid dehydrogenase (HSD3B1)	0.52168566	0.76528004	0.76528004	0.76528004	0.76528004	0.76528004	0.76528004	0.76528004	0.76528004	0.76528004	0.76528004	0.76528004	0.76528004	0.76528004
Caspase 6	0.88458625	1.0105057	0.8008647	1.0259257	0.9371974	0.8757214	0.8757214	0.8757214	0.8757214	0.8757214	0.8757214	0.8757214	0.8757214	0.8757214
Phase-1 RCT-169	1.0227742	0.8380023	0.6516225	0.913848	1.1548594	0.94030566	0.94030566	0.94030566	0.94030566	0.94030566	0.94030566	0.94030566	0.94030566	0.94030566
Phase-1 RCT-197	1.223004	1.2207897	1.7883906	2.8310745	2.6738167	0.96700023	1.3544659	0.85036236	0.90171874	1.0155311	0.9051011	1.0758719	0.8391084	0.8391084
Phase-1 RCT-34	0.43760344	0.69765484	0.61477855	0.8247668	0.96702312	0.9411066	0.9181694	0.9181694	0.9181694	0.9181694	0.9181694	0.9181694	0.9181694	0.9181694

Table 28

Phase-1 RCT-22	0.8523629	1.0580403	0.8638771	1.0756598	1.188767	0.91570618	0.8688906	0.8227018	0.9716688	1.028351	1.010514	0.881172	0.7858266
Pyruvate kinase, muscle	0.9533054	0.6718806	1.1697266	1.1386963	0.64882945	0.97773168	0.9381889	1.1680395	0.94791126	1.126273	1.0653025	0.9400797	
Phase-1 RCT-26	0.56676395	0.8343356	0.5145407	0.8212657	0.7442342	0.9825152	0.9455362	1.2048438	0.8710663	1.2048438	0.7723004	1.2450566	
Phase-1 RCT-29	0.9272158	0.9858703	1.0214585	1.1238688	0.6433379	0.9770763	0.9063257	1.0849425	1.0148533	1.3729494	1.0845369	0.8519268	
Cytochrome P450 2C9 (alternate clone 2)	0.8057108	0.8821331	0.57619107	0.7035754	0.84227157	0.90079427	0.93550146	0.83011717	0.45438726	0.8713662	1.2209398	1.6880299	1.2391876
Phase-1 RCT-280	0.6538864	0.88921175	0.8416194	0.8695557	0.9045125	0.9716355	0.9020468	0.63214755	1.1629833	0.58477783	1.0688887	0.8591514	0.8720532
Phase-1 RCT-281	1.4718188	1.5472282	1.2456834	1.492768	1.4558835	0.95816166	0.82286427	0.9719308	0.8387764	0.9742828	0.9847265	1.1038551	1.0822762
Methylglucyl-CoA racemase alpha	0.77871615	1.200307	1.0029103	1.1885339	1.210935	0.8816292	1.156323	0.9852427	0.9571565	0.8720516	0.6883565	0.97652364	1.625342
Cytochrome P450 1A2	1.0209686	0.90473618	1.1885339	1.0209686	0.90473618	1.1885339	1.0209686	0.90473618	1.1885339	1.0209686	0.90473618	1.1885339	1.0209686
Monomelic acidase B	0.1025745	1.1785054	0.9787636	1.089781	0.82207014	1.3622731	0.95486645	0.93146804	0.773061	0.8454312	0.9923786	0.8905458	0.8715123
Phase-1 RCT-264	0.6842591	0.7495164	0.63862526	0.9444551	1.050072	0.9336655	0.93146804	0.773061	0.8454312	0.9923786	0.8905458	0.8715123	0.8715123
Peroxidase proliferator activated receptor gamma	0.8158811	0.74248294	0.7344958	0.9444551	1.050072	0.9336655	0.93146804	0.773061	0.8454312	0.9923786	0.8905458	0.8715123	0.8715123
Phase-1 RCT-143	1.0989426	1.2087666	1.0192534	1.2180135	1.2609415	0.7863739	0.972867	0.8046191	0.9273824	0.7825439	0.8905458	0.8715123	0.8715123
Phase-1 RCT-144	0.74014	0.7414343	0.987206	0.89168316	0.95130614	0.85144089	1.565388	1.0735222	0.96733116	0.96136534	0.79689944	1.1089464	0.8433091
Phase-1 RCT-117	0.8291213	1.0282141	1.0032374	1.5201943	0.720133	0.93393563	0.8596877	1.0735222	0.96733116	0.96136534	0.79689944	1.1089464	0.8433091
Glutathione S-transferase theta-1	0.91027534	0.98763325	0.82913655	0.82913655	0.82913655	0.82913655	0.82913655	0.82913655	0.82913655	0.82913655	0.82913655	0.82913655	0.82913655
Phase-1 RCT-91	1.0950375	0.942492	0.8685333	1.0885333	1.1085333	0.720133	0.93393563	0.8596877	1.0735222	0.96733116	0.96136534	0.79689944	1.1089464
Phase-1 RCT-148	0.56087866	0.8268539	0.8268539	0.8268539	0.8268539	0.8268539	0.8268539	0.8268539	0.8268539	0.8268539	0.8268539	0.8268539	0.8268539
Phase-1 RCT-142	1.04766	1.107287	0.904218	1.016459	1.100157	0.988783	1.0327874	0.960607	0.8339798	0.93415895	1.0766209	0.8715123	0.8715123
Activin receptor type II	1.05148	0.808869	1.684113	0.8277551	1.614926	1.239441	1.0863955	1.1349468	1.0011168	1.2823468	0.9918437	0.8878765	0.8922298
Glutathione methyltransferase	0.7421956	1.313471	1.2214365	1.0314378	1.258435	0.98216045	0.98216045	0.98216045	0.98216045	0.98216045	0.98216045	0.98216045	0.98216045
Phase-1 RCT-281	0.9252161	1.0425408	0.9395945	0.86259073	1.087945	0.983741	1.004581	0.9830234	1.147267	0.9359579	0.8743516	0.8233277	0.84335816
Ciliary neurotrophic factor	1.793779	0.86845408	1.1355479	1.0606529	1.0172067	0.9884665	1.1798844	0.9330616	1.003784	1.0428596	1.0111809	0.8716254	0.8525587
Gap junction membrane channel protein beta 1 (Gp1)	1.0417887	0.87608136	0.8893337	0.8561009	0.9051414	1.1420882	1.0019574	1.2515248	1.103773	0.9831945	1.0361083	1.3240503	1.272104
Phase-1 RCT-86	1.1755957	1.1004872	1.0727899	0.73466015	1.4380186	0.76520646	0.910158	1.0590922	1.014892	0.98797416	1.005274	0.8765611	0.76737605
Phase-1 RCT-267	0.62861736	1.0541203	0.918619	1.302222	1.095556	1.1517568	1.2045815	1.0615433	1.2287438	1.0806564	1.1650663	1.113368	0.8985288
Reelin-binding protein (RBP)	0.8974857	1.1596943	0.88336175	1.0203984	1.1953387	0.89891237	1.0005694	0.98284385	1.1388108	1.0850161	1.3305354	1.1117773	0.9657306
Very long-chain acyl-CoA synthetase	0.850676	0.9017531	0.84588916	1.1577976	1.0693944	1.5443368	1.0959172	1.4159844	1.141703	1.2004079	1.0113683	0.9523357	1.210004
Syntenin-1	0.9101388	1.1031542	1.0853156	1.0488709	1.2067051	0.8900775	0.8604408	0.8019077	0.8169686	0.77898534	1.0044742	1.028858	1.1101887
Stathmin	0.7417174	0.74851227	0.85267854	0.9504805	0.9789012	1.0487939	1.1961063	1.1930365	1.0519509	0.7296854	1.117107	0.9716827	0.9340583
Phase-1 RCT-145	1.570553	1.378198	1.5410144	1.0513129	2.0686297	1.1486185	1.0671697	1.1291814	1.1149875	0.9582374	1.0637333	0.97726595	1.1140467
Actin	0.76730845	1.0058218	0.7842018	1.0701328	0.8797193	0.7204387	0.98701697	1.02877	1.0504351	1.0007884	1.022227	1.0128787	0.96236028
Phase-1 RCT-89	0.5512265	1.0560655	0.6054506	0.78219173	0.72819173	0.72819173	0.72819173	0.72819173	0.72819173	0.72819173	0.72819173	0.72819173	0.72819173
Sarcoplasmic reticulum calcium ATPase	1.0223002	1.032208	1.0039043	0.703004	0.95856436	0.93227053	1.2452916	1.0652164	0.99204475	1.09587735	1.1402038	1.1388048	1.0184535
Alpha-2-macroglobulin, sequence 2	1.2085003	1.0340518	1.2915121	1.4530298	0.98905163	0.77477133	1.0889514	0.98568945	0.9787861	0.9950396	1.0118986	0.986897	1.0947844
Phase-1 RCT-204	1.0805094	0.9547512	0.903746	1.0033628	0.9705714	0.9138268	0.8955723	1.018074	0.9763441	1.0067638	0.9410987	0.9762882	1.0234381
Vascular endothelial growth factor	0.6807874	0.75548214	0.7148071	0.7861106	0.5857494	0.96012014	0.7723611	0.90812856	1.0053053	0.9894451	1.084434	1.023075	1.0893791
NADP-dependent isocitrate dehydrogenase, cytosolic	0.65791476	0.9430142	0.5803416	0.8742474	0.7954767	0.98403944	0.9352361	0.88901937	0.92065246	0.8934565	0.8338779	1.1040357	0.9525168
DNA binding protein inhibitor ID2	0.8073534	1.4864583	0.5550381	0.8539256	0.7470933	0.8611848	0.730273	1.1874544	0.9785033	0.8085653	0.9671007	1.0538318	0.8776066
Glutathione S-transferase Ya	0.3470667	0.9975805	0.6957648	0.7833047	1.1420643	0.8617315	1.3034561	0.80232316	0.87787724	0.5341839	1.088779	0.81127	0.89383829
Epoxide hydrolase	0.8448954	0.4861159	0.7019659	0.5492111	0.83347916	1.277062	2.0622501	1.7030207	1.1254239	0.61103505	1.0873621	1.3224631	0.83844155
Insulin-like growth factor I	0.6534497	0.8338016	0.8054989	0.63886297	0.9137077	0.7642107	1.0022188	0.9182281	0.97973733	0.5013182	0.9503169	1.174859	0.8378975
Proteinase H synthase	1.3608649	0.99436505	0.8320275	0.9028055	0.8611812	1.270981	0.50440437	0.8547486	0.949491256	0.91689418	0.8562222	1.047591	1.0522978
Phase-1 RCT-136	0.6538097	0.9525828	1.0147219	0.7783322	1.2103988	0.9291206	0.9481702	0.8074209	1.0078807	0.91640435	0.96727705	0.8649121	0.8313278
Phase-1 RCT-137	1.54997954	1.1528919	0.9559294	0.903216	1.033963	0.7518013	1.045111	0.8868399	0.6728654	0.84364016	0.8782016	0.931988	0.9047172
Phase-1 RCT-138	1.0058984	1.0514744	1.0108424	1.017684	1.1834484	0.9095171	0.9224133	0.8062515	1.0045406	0.8398467	1.0688574	1.027383	0.973558
Hepatic lipase	0.7599864	0.7691737	0.6100425	0.7121565	0.8918783	0.9101771	0.8782038	0.8802834	0.8584668	0.95552917	0.70573584	1.0216281	0.933813
Phase-1 RCT-164	0.80593216	0.99105345	0.7192517	0.8983897	1.0941393	1.1494036	0.8593829	1.0513995	1.0111602	0.9535562	1.0747262	0.850337	0.9829991
Acyl-CoA dehydrogenase, medium chain	0.6533868	1.1852637	1.2150987	1.2510758	1.293611	0.7785584	0.8355453	0.8035434	0.8715287	1.037497	1.1541095	1.245149	1.1137509
Glutathione S-transferase Yb2 subunit	0.8734395	1.0353562	1.4209336	0.8930058	1.1473848	0.98195425	0.87706814	0.97176205	1.0836791	1.2475184	0.9822595	0.83381857	0.80534935
Carbonyl reductase	0.8518327	0.699407	0.7383644	0.8850522	0.6810765	0.9310751	1.3501159	0.9335684	1.0336287	0.75822104	0.8124917	1.0255892	0.900485
Phase-1 RCT-166	0.93730193	1.2259277	0.958032	1.2278291	1.415798	0.80221814	1.3501159	0.9335684	1.0336287	0.75822104	0.8124917	1.0255892	0.900485
Apolipoprotein E	0.6063834	0.88564086	0.4521412	0.91471533	1.2204183	0.8427726	0.7020418	0.97819085	0.86673	0.9035206	0.634621	1.2454887	0.98933603
UDP-glucuronosyltransferase	1.4599786	1.9504731	1.2755894	1.2407533	1.5297682	1.0307722	1.0307722	1.0307722	1.0307722	1.0307722	1.0307722	1.0307722	1.0307722
Glutathione S-transferase P1	1.6887869	1.6203547	0.6238149	0.702587	0.702587	0.702587	0.702587	0.702587	0.702587	0.702587	0.702587	0.702587	0.702587
Dialkyl ketonase related protein (Eto72)	0.881893	0.9063032	0.8540873	0.9709727	0.53364793	0.8888459	1.0715302	0.8590006	0.82541305	0.7861389	0.8168544	1.1721368	1.2545099
Ribosomal protein L13	2.4200416	2.4170516	1.58216	1.540771	1.7608093	1.0944256	1.058495	0.87041336	0.6499784	0.7230058	0.885374	1.1559335	1.083055
Cendin-1	1.598298	2.0354137	1.3853123	1.3422761	1.583371	1.6000475	1.2727708	1.1006199	0.92102575	0.66093656	0.7024084	1.34704	1.920765
Inter-alpha-inhibitor H4 heavy chain (III4)													

Table 28

Phase-1 RCT-3	1.0629162	0.934888	1.1063074	0.8458622	0.9847016	0.9563728	0.9560126	0.54823157	1.0548414	0.9109854	0.9143368	1.0078394	0.8563438
Follin beta (Fau)	1.041667	0.8897275	0.6239584	1.0392927	0.8685811	0.9817707	0.9454279	0.83454913	0.6847553	0.7772356	0.859572	0.9730912	1.263414
3-hydroxybutyrate dehydrogenase	0.94118526	1.383831	0.89462394	0.956976	0.76131326	1.1351656	0.89741313	0.8649694	0.8643036	0.8259844	1.07643	1.084122	1.263414
Carbonic anhydrase III, sequence 2	0.9431118	1.047441	0.8428175	1.2157135	1.1161162	0.82797695	0.76131326	0.8649694	0.8643036	0.8259844	1.07643	1.084122	1.263414
Phase-1 RCT-10	0.6724295	1.0722588	0.7658915	0.8507194	0.9089123	1.0606762	1.0169906	0.8595953	0.82612914	0.9763463	0.8432507	1.163547	1.0828459
Alpha-2-macroglobulin	0.5469762	1.0637052	0.9774396	0.8211657	1.0123272	1.2321903	1.1696905	0.916046	0.7276871	1.725247	0.5092802	1.035802	0.8566874
Dynactin-1 (D100)	0.83917024	0.6443275	0.95313513	0.8241515	0.8213361	1.0888954	1.050591	0.69954157	0.97917336	0.9162338	0.9769026	0.934281	0.9609801
Uryl oxidase	1.0254638	0.6397027	0.81023305	0.82261845	0.874354	1.025619	0.45758426	0.9732022	0.9339858	1.122372	1.0811367	0.970591	0.9820057
Phase-1 RCT-252	0.4120191	0.8675815	0.5304901	0.8434885	0.54416084	0.7674445	0.8997687	1.021316	1.1413773	1.0041705	0.9605766	0.9906409	1.074127
Phase-1 RCT-28	1.1966621	0.1076024	0.9989376	1.125808	0.8498525	1.1556881	1.1700813	0.89711857	0.9380065	0.9278083	1.0541471	1.128447	1.040101
Phase-1 RCT-42	1.587458	1.3459515	0.9042356	1.0931474	1.1540174	1.1693726	1.2215459	1.1504703	1.1051788	1.1943313	1.1535378	0.9519823	0.9318098
Phase-1 RCT-25	1.0827328	0.8835688	0.7283304	0.8438765	1.0331114	0.8653684	0.8902570	0.9288547	0.8434362	0.98493924	1.0188645	1.0205524	0.5562365
Cytochrome P450 2C11	1.1374034	1.1230054	0.9253963	1.2027262	1.0262774	1.0331816	0.8531816	0.8595953	0.8012570	0.9233449	1.2323449	1.326664	1.1314552
Phase-1 RCT-202	1.0024682	1.3143045	1.6289593	1.4219371	1.159371	0.85261563	0.8167027	0.9181077	0.8723439	0.9233449	1.2323449	1.326664	1.1314552
Complement factor I (CFI)	0.9715953	1.4136932	1.0029722	1.1517541	1.1153394	0.7653177	1.0726383	0.8203368	0.8101537	0.9748879	0.9070856	0.8603726	1.0023931
Proliferating cell nuclear antigen gene	1.0850874	1.0372772	1.3832303	1.2763162	1.3323595	0.99157721	1.1710843	1.1405118	1.001537	1.0748879	0.9070856	0.8603726	1.0023931
Activating transcription factor 3	1.0546737	0.8148502	1.0794685	0.9563219	2.1110792	1.2800273	0.76143867	1.1380245	0.9204215	1.2822058	1.1330973	1.174228	1.0272698
Focal adhesion kinase (pp125FAK)	1.297927	1.0777004	1.001217	0.9490468	0.94661987	0.99030557	1.1272535	1.0019556	0.9670882	0.9843728	0.890354	0.9147794	0.9242024
Phase-1 RCT-289	0.70833826	0.9783509	0.76727617	0.7188844	0.9467017	0.80605485	1.1175951	0.99165404	1.0622177	0.9119681	1.2031344	0.969447	0.9423024
Phase-1 RCT-259	1.2569708	1.1553924	1.0640799	1.544615	1.3743566	0.8584332	0.8467768	1.2631097	1.031452	1.1438619	0.9524206	1.1956668	1.4804428
Non-responsive element-binding protein	0.7290085	0.9552711	0.6923353	0.8271844	0.9041993	1.3744465	1.3186418	1.2631097	1.031452	1.1438619	0.9524206	1.1956668	1.4804428
MHC class I antigen RT1.A10 alpha-chain	1.3110204	1.1089827	1.3744238	1.6525911	1.268493	1.0875078	1.2763258	1.0515903	1.033837	1.3181348	1.0578894	0.8262897	0.9659767
AT3	0.8108145	1.18738	1.2423802	0.9326281	1.3597915	0.7825933	1.0072215	1.0191418	1.0352876	0.61197454	0.75794166	1.1073446	1.6022089
AT1	0.7821903	0.8294456	0.8413856	0.8097938	0.9883118	0.9031122	1.0072215	1.0191418	1.0352876	0.61197454	0.75794166	1.1073446	1.6022089
Phase-1 RCT-42	1.0824978	1.0506248	0.9416623	0.5997503	1.3995013	0.8208142	0.8618373	0.96587734	0.9673203	0.9594537	0.9429516	0.8580227	0.9421633
Phase-1 RCT-123	0.93781585	0.9070922	0.9649357	0.8840185	0.9631278	0.68168373	0.96587734	0.96587734	0.9673203	0.9594537	0.9429516	0.8580227	0.9421633
Phase-1 RCT-123	1.0533954	0.93394744	0.52558684	1.0203813	0.8840185	0.9631278	0.68168373	0.96587734	0.9673203	0.9594537	0.9429516	0.8580227	0.9421633
Phase-1 RCT-66	0.5326588	0.8721459	0.5385245	0.48118313	1.0181289	1.3087037	0.96037096	0.8587025	0.86597025	0.86597025	0.86597025	0.86597025	0.86597025
Endogenous nitrobenzylthioinosine-sensitive nucleoside transporter	0.6776803	1.0758263	0.7597561	0.84169644	0.8803395	0.85631454	0.9914453	0.95101404	0.95942134	0.76507765	0.9415851	1.0148141	0.9594537
Glucose transporter 2	0.41103432	0.6918534	0.8351827	0.3265834	0.7700372	0.6535617	1.0915757	0.6816241	1.000553	1.142283	0.674554	0.576538	0.7308886
Mitochondrial protein-2	1.0311834	0.8208574	1.6552633	2.561786	1.9034702	1.1746423	1.3900396	1.1634701	1.2561334	1.854316	1.1347028	1.3345523	1.0656422
Mitochondrial protein-1	1.2439917	0.9502846	2.9911823	2.897808	1.5689169	1.0108095	1.0120044	1.017561	1.5693139	1.122282	1.3366812	1.0589719	1.4592414
Phosphatidylethanolamine-binding protein	1.1957243	1.1784271	1.102847	1.3584655	0.8844397	0.8823235	0.8901179	0.8901179	0.8901179	0.8901179	0.8901179	0.8901179	0.8901179
Phase-1 RCT-180	1.589216	1.4524013	1.4823052	0.9938694	1.711872	1.0894088	0.87238425	0.9145549	1.0611488	0.7903211	0.8803084	0.82658243	1.1221172
Integrin beta-4	1.0407391	0.88951276	1.036455	0.9421206	0.8703772	1.0761981	0.6644133	1.0050491	1.0484931	1.0320821	0.8676053	0.8653471	0.85466385
NADPH cytochrome P450 oxidoreductase	1.1503522	1.2638515	1.294615	1.1251336	0.864268	1.22647	0.45141283	0.9173604	1.0737891	1.570174	1.0739831	1.5539337	1.6080357
Warf	0.8612835	0.96270666	0.54682577	0.86780324	0.9679414	0.95709624	1.0346	0.951438	1.0184007	1.085277	0.85741164	0.65157807	0.6470763
Endogenous retroviral sequence, 5' and 3' LTR	0.77456555	0.8594768	0.76014894	0.7461311	0.8260678	0.9995994	0.9979714	0.9215787	1.3110704	1.0722708	0.942429	1.0340971	1.083175
Phase-1 RCT-53	1.1633196	1.1845413	1.1448398	1.3069937	1.4471786	1.2799266	0.97859174	1.033587	1.025257	1.0485672	1.0331302	0.89708424	0.94654908
Phase-1 RCT-54	0.83728135	0.99953015	0.9116349	0.7351872	1.2833073	1.0204208	0.87805285	1.026621	1.0758342	0.9530173	0.80753514	0.58515825	0.917267
Phase-1 RCT-240	0.8193125	1.2305849	0.94447535	1.086407	1.1835415	0.740724	1.0749507	0.7616151	0.82797107	0.67849624	0.9619896	1.0227958	1.091563
Osteonin	0.8308351	0.8870365	0.7051098	0.90643615	1.099602	1.1413019	0.82543953	1.0481932	1.2706589	1.0716151	1.50783	1.309006	1.130057
Organic anion transporting polypeptide 1	4.8127553	2.9486834	2.1760681	1.8122862	2.938593	1.0363545	1.1297251	0.96274424	0.763853	0.77530426	0.78849726	1.0384585	0.8889407
Alpha-1 acid glycoprotein	1.063146	1.6801551	1.1455456	1.1482121	0.96506566	1.1162702	1.2469309	0.9603133	0.7640941	0.8049913	0.82019105	1.1455994	0.91725206
Cyclin-dependent kinase 4 inhibitor P21/kip1 (alternate clone)	0.898451	0.845915	1.498413	1.2125689	1.6200546	1.4630066	1.7396414	1.4343387	1.3479036	1.5240782	1.4836071	1.3408951	1.104891
Phospholipase D	0.9059803	0.9463231	0.814221	0.8791264	0.864717	0.90494	0.3698325	0.9380286	0.8805574	1.10201	0.87521454	0.884999	0.7879387
Phase-1 RCT-39	1.1595559	1.2139548	1.162263	1.182363	1.118488	1.118488	1.118488	1.118488	1.118488	1.118488	1.118488	1.118488	1.118488
Phase-1 RCT-258	1.460089	1.4139081	1.3011248	1.3011248	1.3011248	1.3011248	1.3011248	1.3011248	1.3011248	1.3011248	1.3011248	1.3011248	1.3011248
Phase-1 RCT-113	1.995919	1.8300588	2.190394	1.8244907	2.040216	1.1216131	0.9305331	1.0544583	1.0480038	0.9835567	0.94627875	0.825366	1.048975
Adenine nucleotide translocator 1	0.95336745	0.82575555	0.91131955	0.78502764	0.8428224	0.76753453	0.9379408	0.7557625	0.864578	0.916747	0.7178028	0.9178028	0.95970113
Alpha-1 acid glycoprotein	9.906218	9.17187	9.748866	7.6964277	1.1750884	1.419373	0.8740063	0.8740063	0.8740063	0.8740063	0.8740063	0.8740063	0.8740063
MHC class II antigen RT1.B.1 beta-chain	1.0347805	0.7697221	1.3504578	1.5439461	1.354778	0.40597698	0.84087958	1.1363348	1.282834	1.3353862	1.0427824	0.5787145	0.88751644

Table 28

Organic cation transporter 3	1.1905781	0.9693128	1.2634657	1.101564	1.0014888	1.1747043	1.5931417	1.1952131	1.0578806	1.0272671	1.0635788	0.96424858	0.87350386	1.1472305
Hypoxia-inducible factor 1 alpha	1.0768511	0.8890503	1.1197275	0.9509475	1.1195817	1.2085173	1.2751422	1.0872145	1.0257991	1.1510673	1.103817	0.94252588	0.85012716	1.0181425
Phase-1 RCT-43	0.9629973	1.01735	1.0448523	0.8640939	0.9695941	1.1925489	0.9461485	1.0004077	1.1190143	0.97738597	1.099402	0.8040402	0.86728204	0.8345307
Phase-1 RCT-45	1.099003	0.8649354	1.1228485	0.8601322	1.7368328	1.2450672	0.9236604	1.0615476	1.1273528	0.9367873	1.0182231	0.76589714	0.9163188	0.783048
Malate dehydrogenase, cytosolic	1.0405021	1.4722912	0.9791184	1.1052082	1.2134337	0.76518073	0.90899575	0.85486903	1.0645793	0.72318697	0.94428027	0.7444563	0.45186524	1.1708484
VI30 element	1.6812829	1.2526938	0.6872063	1.0043905	1.3489897	1.2726611	1.5941685	1.3168078	0.96506533	1.1624845	0.9159288	1.020721	1.4748385	1.1774898
Phase-1 RCT-189	0.8576794	0.89773943	0.8063394	0.97974753	1.2084311	0.9405941	1.062203	0.9833077	0.8000699	0.8527022	1.033908	1.1200721	0.96335905	0.8880004
Alpha-fetoprotein	0.87411815	0.83749735	0.900952	1.0510545	0.773255	1.0666528	1.1367122	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Calgranulin B	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Tissue plasminogen activator	1.1040685	1.0848544	0.91145635	0.9882328	0.99513817	0.83050424	0.8784427	0.9086979	0.8376265	0.84888768	0.8776628	1.2135102	1.2333682	1.0992107
Phase-1 RCT-185	1.0310414	1.1701188	1.1175592	1.2265487	1.243889	0.86359864	0.97447884	0.9086979	0.8376265	0.84888768	0.8776628	1.2135102	1.2333682	1.0992107
Phase-1 RCT-186	0.8706386	0.7242712	0.8280095	0.6795189	0.9256668	1.7007453	1.7047597	1.3355463	1.7108832	1.183078	1.4679508	0.8555131	1.161882	0.955316
Phase-1 RCT-187	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-188	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-189	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-190	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-191	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-192	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-193	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-194	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-195	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-196	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-197	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-198	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-199	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-200	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-201	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-202	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-203	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-204	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-205	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-206	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-207	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-208	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-209	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-210	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-211	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-212	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-213	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-214	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-215	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-216	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-217	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-218	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-219	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-220	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-221	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-222	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-223	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-224	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-225	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-226	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-227	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-228	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-229	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685	0.91473556	0.84721905	0.9318565	0.89060354	1.0652075	0.9383594
Phase-1 RCT-230	0.82182014	1.0524913	0.8564319	1.0210074	1.2451465	1.0076222	0.95410323	0.78256685						

Table 28

Table 20. Expression Data for 8 Hour Timepoint (1)										Compound-Dose (2)										Animal Number (3)										Gene Name (6)										Insulin-like growth factor binding protein 1										Insulin-like growth factor binding protein 2										Heme oxygenase										Phase 1 RCT-103										Phase 1 RCT-111										Phase 1 RCT-103										Phase 1 RCT-114										Phase 1 RCT-115										Phase 1 RCT-116										Phase 1 RCT-117										Phase 1 RCT-118										Phase 1 RCT-119										Phase 1 RCT-120										Phase 1 RCT-121										Phase 1 RCT-122										Phase 1 RCT-123										Phase 1 RCT-124										Phase 1 RCT-125										Phase 1 RCT-126										Phase 1 RCT-127										Phase 1 RCT-128										Phase 1 RCT-129										Phase 1 RCT-130										Phase 1 RCT-131										Phase 1 RCT-132										Phase 1 RCT-133										Phase 1 RCT-134										Phase 1 RCT-135										Phase 1 RCT-136										Phase 1 RCT-137										Phase 1 RCT-138										Phase 1 RCT-139										Phase 1 RCT-140										Phase 1 RCT-141										Phase 1 RCT-142										Phase 1 RCT-143										Phase 1 RCT-144										Phase 1 RCT-145										Phase 1 RCT-146										Phase 1 RCT-147										Phase 1 RCT-148										Phase 1 RCT-149										Phase 1 RCT-150										Phase 1 RCT-151										Phase 1 RCT-152										Phase 1 RCT-153										Phase 1 RCT-154										Phase 1 RCT-155										Phase 1 RCT-156										Phase 1 RCT-157										Phase 1 RCT-158										Phase 1 RCT-159										Phase 1 RCT-160										Phase 1 RCT-161										Phase 1 RCT-162										Phase 1 RCT-163										Phase 1 RCT-164										Phase 1 RCT-165										Phase 1 RCT-166										Phase 1 RCT-167										Phase 1 RCT-168										Phase 1 RCT-169										Phase 1 RCT-170										Phase 1 RCT-171										Phase 1 RCT-172										Phase 1 RCT-173										Phase 1 RCT-174										Phase 1 RCT-175										Phase 1 RCT-176										Phase 1 RCT-177										Phase 1 RCT-178										Phase 1 RCT-179										Phase 1 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Phase-1 RCT-32	1.1394076	0.9898817	0.9552281	1.064798	1.0528632	1.0001633	1.2728591	0.8551754	0.6772159	0.9854766	0.84521955	1.8109145	1.3686526
Proteinase assembly factor 1	1.0653639	1.0212761	1.0534497	1.1920707	1.2849059	1.0114478	1.2239292	1.194413	1.4510006	1.1683393	1.0272114	1.0750761	1.160406
Exonuclease DNA phosphatase	1.0015395	1.0086834	0.9101519	1.153771	1.0768057	1.274111	1.3786958	0.747251	1.350742	1.2064193	1.1115209	0.9430226	1.0065223
Phase-1 RCT-42	0.9458508	0.970567	0.8494153	0.9242503	0.8788012	1.177113	0.9320050	0.878012	0.9313716	0.81627	0.8602635	0.8793174	0.8506064
Marlin F43	1.3169703	1.048847	1.2082014	1.2447222	1.025207	0.8904467	0.55967146	0.7351203	0.8149059	0.5024259	0.4571944	1.2824531	1.0850388
Phase-1 RCT-184	1.2107718	1.0644588	1.1325516	0.9409657	0.9412309	0.8802567	0.8802567	0.8802567	0.8802567	0.8802567	0.8802567	0.8802567	0.8802567
Phase-1 RCT-188	1.0742358	0.9284777	0.9121315	1.0077223	0.9935365	0.8917637	0.6178954	0.6531207	0.770514	0.5934893	0.3465458	0.9360334	0.7828058
Phase-1 RCT-119	0.9326515	0.9380443	1.1316528	0.9356883	0.8959465	1.149339	0.9015291	1.2205392	1.2155145	0.8167566	1.169292	0.6932279	1.1161451
Carbonic anhydrase II	0.9102186	1.0113241	0.9043776	0.7238994	0.6896813	1.183335	1.2347927	0.7723631	1.2897813	1.2445963	0.8111074	0.8949756	0.76882845
Thyrotropin releasing factor	1.06127814	1.0750757	1.1003664	1.0867868	1.2817254	1.2510178	2.0715541	2.000438	1.5412581	1.440956	2.30412	2.80245	0.8537216
Phase-1 RCT-71	1.1628905	1.0944417	1.3854943	0.9824855	1.0507174	0.8717645	1.0016919	0.9102384	0.9303285	0.84339045	0.80946535	0.7614264	1.2015465
Phase-1 RCT-161	0.7543197	0.9278937	0.94741594	1.0513953	1.4442161	0.9207895	0.7614477	2.7460906	3.0277555	4.7050414	4.5417694	1.0959002	1.2015465
Phase-1 RCT-207	0.86258175	1.0310225	0.98978347	1.160921	1.1341091	0.9207895	0.7614477	2.7460906	3.0277555	4.7050414	4.5417694	1.0959002	1.2015465
Phase-1 RCT-144	0.913031	1.0675185	1.2195552	0.7341973	1.0196814	0.826161	0.5295748	3.6033442	3.1778043	3.5924966	4.746027	0.8941828	1.0158157
Phase-1 RCT-225	0.64939566	0.8276143	0.9337463	0.7480868	0.826161	0.5295748	3.6033442	3.1778043	3.5924966	4.746027	0.8941828	1.0158157	0.9508278
Cytochrome P450 2E1	0.73039873	0.9701947	0.9046532	1.1509198	1.1717117	1.0047926	1.119518	1.812413	1.3057531	0.8476242	0.5056624	0.8444706	0.7969885
Phase-1 RCT-28	1.0591097	1.039665	1.1016168	0.9002384	0.8662174	0.9970438	1.3645934	1.5311825	1.5403085	0.8215258	1.0406017	0.9917781	1.0737023
Thioredoxin-1 (Trx1)	1.2127857	0.986048	1.0716466	1.2550621	1.1472393	1.0755165	0.66098434	0.63705397	0.8871653	0.49599414	1.00723035	1.0952692	0.90991616
Carbonic anhydrase III	1.2391126	0.7080345	0.48724124	0.6880884	0.68578565	1.1619563	0.22514413	0.047394763	0.20406759	1.052352	0.1347709	0.130409	0.60622605
Phase-1 RCT-140	1.0639235	1.0202199	0.9115662	1.2117398	1.1173398	1.182335	1.105652	1.055341	0.7778474	0.659094	0.857214	0.813215	0.8529282
Complement component C3	1.1234728	1.2204723	1.1162806	0.9103154	0.8227164	0.59397675	0.7240708	0.5581976	0.72193956	0.231761	1.4469332	1.1927941	0.9817011
Glucokinase	0.81654733	0.86616536	0.84751486	0.83749163	0.4271972	0.4861481	0.65117323	0.03010876	0.6462287	0.8611717	0.45059827	0.38421875	0.9972352
Phase-1 RCT-173	0.9008108	0.9271488	0.97576985	0.8367222	0.8113336	0.6973539	1.0022567	0.7865125	1.1520873	0.9603048	1.040534	1.047405	0.9716567
3-methyladenine DNA glycosylase	0.9901678	1.0041732	0.9378831	0.99485145	1.155684	1.0529334	0.78972626	0.79161495	0.85380185	1.0016917	1.2196586	1.1796415	0.7976567
Provisional multifunctional enzyme type II	0.8613499	0.8967698	0.8888456	1.0293419	1.065841	0.9502671	0.5696715	0.46981352	0.6441833	0.8591224	0.9162961	0.8891984	0.82499164
Phase-1 RCT-40	0.93073463	0.9666205	0.74318434	0.6065776	0.529814	0.6555551	0.37482388	0.19397648	0.5128356	0.72689044	0.3525765	0.34157932	0.7899533
Senescence marker protein-30	1.0041132	1.082714	1.1555474	1.034809	1.2685733	1.2430035	3.7432185	4.1771908	2.1775928	3.4404607	7.979724	7.341203	1.2993892
Oxyltin G	0.822859	0.971922	0.87104065	0.7661639	0.7412841	0.9350305	1.566821	1.3748273	1.438863	1.2571139	1.358107	1.8041399	0.85249066
Phase-1 RCT-28	1.0590522	0.971922	0.87104065	0.7661639	0.7412841	0.9350305	1.566821	1.3748273	1.438863	1.2571139	1.358107	1.8041399	0.85249066
Eno1	0.966088	1.0733517	0.87104013	1.158682	1.1841341	1.1485847	0.8379549	0.8379549	0.8379549	0.8379549	0.8379549	0.8379549	0.8379549
Alcohol dehydrogenase 1	1.3778421	0.80203944	0.5475605	1.2323114	1.15151	0.7834308	0.3923914	0.2831305	0.4520102	0.4969897	0.49633874	0.48395005	1.2804559
Stem cell factor	1.0026893	0.9769885	0.766292	1.5231436	0.6559404	0.685168	1.2697924	0.91351384	0.70879054	0.7074744	0.57186574	0.59207384	0.81815064
JNK1 stress activated protein kinase	0.7589773	0.8511034	0.8531436	0.8559404	0.685168	1.2697924	0.91351384	0.70879054	0.7074744	0.57186574	0.59207384	0.81815064	0.832071316
Protein tyrosine phosphatase alpha	0.9693373	1.0104092	0.8550894	0.9407882	0.9360453	1.558161	1.418717	1.2798378	1.3055594	0.8393976	0.7895128	0.8583389	1.0204145
Phase-1 RCT-35	1.0411817	0.9595241	0.9842511	0.9220764	0.8947223	0.9666337	1.121789	1.4907624	1.3323337	1.0170728	1.165746	1.3183376	0.972007
Ubiquitin conjugating enzyme (RAD 6 homologue)	1.1891202	1.1756055	1.4245914	0.8570723	0.860294	0.8984893	0.9942982	1.247427	1.2142387	1.5077243	2.0285178	2.0489515	0.94226503
DNA topoisomerase I	1.0840245	1.2072841	1.3165952	0.8625739	0.821817	0.8959343	0.87024216	0.4898717	0.7759813	0.87337564	1.3112004	1.7509251	0.9532004
Phase-1 RCT-280	0.9381239	1.4053903	0.8843707	1.1513247	1.0118942	1.037574	0.70204216	0.4898717	0.7759813	0.87337564	1.3112004	1.7509251	0.9532004
Superoxide dismutase Mn	1.2730436	1.1655304	1.1697198	1.1433311	0.8021525	0.9494259	0.9725796	1.0230223	1.0033003	1.4602893	0.8419493	0.758932	1.2891879
Beta-tubulin, class I	1.0090874	1.2194175	1.0281593	0.89259065	0.8112711	0.53816524	0.835152	1.2351648	1.2768893	0.8298016	1.2090057	0.8452183	1.2747074
Centriole phosphatase synthetase I	0.9033617	1.03925	1.5657815	1.1071286	0.8979747	1.008264	0.835152	1.2351648	1.2768893	0.8298016	1.2090057	0.8452183	1.2747074
Diacylglycerol kinase zeta	0.9925108	1.0635607	0.9364257	1.1110805	0.9851443	1.0775367	1.304337	1.0412123	1.284445	1.180212	0.845752	1.0138083	1.1958259
Phase-1 RCT-141	0.8620839	1.1639591	1.5273542	0.9815716	1.0228127	0.96349263	1.5139843	1.4217017	1.5434755	1.7085959	2.638455	2.5927547	1.1347823
14-3-3 zeta	0.88831224	0.9489332	0.9815716	1.110805	0.9851443	1.0775367	1.304337	1.0412123	1.284445	1.180212	0.845752	1.0138083	1.1958259
Gamma-actin, cytosolic	1.1788482	1.1376345	1.2408483	0.8074893	0.6625568	0.57162166	1.073354	1.5375148	1.486878	1.0906228	1.399437	1.5402387	0.926021
Ribosomal protein L13A	1.0632843	1.1162372	1.1584325	0.8765637	0.9925983	0.89786124	1.2140301	1.2934426	1.3171009	1.1635101	1.8168858	1.5273411	1.7438887
h2-a	0.8275622	1.0636709	0.98003566	0.7738352	0.7295565	0.72658545	0.88487864	1.178215	1.123677	1.047463	1.2611394	1.1432769	1.0331833
Phase-1 RCT-65	1.217214	0.990854	1.426122	1.181636	1.3632299	1.2637656	1.040424	0.9382915	1.0132	1.570903	1.2304034	2.1007747	1.3841032
Gln	1.2789336	0.9438312	0.9767608	1.291357	1.4380051	1.3339828	2.3322034	1.587437	1.403432	0.9854502	3.0143523	4.009134	0.9450324
Protein O-mannosyltransferase 1 (Pom1)	1.1537515	1.4288339	1.2684233	1.013308	1.2134981	0.9774893	1.11274	1.0605538	0.9908773	1.002023	1.309892	1.182968	1.063061
HMG CoA reductase	0.9004526	1.0774677	0.9763052	1.043022	1.0138453	0.9365325	0.8724689	0.8716383	0.7518587	1.182968	1.0171633	1.9237344	2.0218894
Phase-1 RCT-12	1.1095262	1.0760605	1.4490266	0.8786563	0.9528822	0.7754328	0.9790087	1.0054923	1.0194283	0.950519	0.9799207	0.9576804	1.099916
Interferon related developmental regulator IFRD1 (PC4)	0.9288757	1.0345532	1.0207139	0.76559826	0.8484688	0.7796303	1.5999315	1.3303684	1.3200082	1.1191834	1.2424812	1.5272749	1.144816
Glucose-regulated protein 78	1.039274	1.1667069	1.1658652	0.7447172	0.9365884	0.7796303	1.5999315	1.3303684	1.3200082	1.1191834	1.2424812	1.5272749	1.144816
3-beta-hydroxysteroid dehydrogenase (HSD3B1)	1.0592293	1.0123714	1.0091161	0.8306732	1.0016026	0.8530026	0.827176	0.82239129	0.5914333	1.2995864	0.6014223	0.4307107	1.080736
Caspase 6	0.9377723	0.9586947	0.92249066	0.87074665	0.87046254	1.307352	1.22215	1.0536978	0.9745684	1.089498	0.9700759	1.0063759	0.74785943
Phase-1 RCT-169	1.1343165	0.94899225	0.81445616	1.324167	1.2558181	1.2609595	1.1902387	1.208126	3.927512	2.0512316	5.5334583	1.0951895	1.1519257
Phase-1 RCT-197	0.8663242	0.8510896	1.0363345	0.81384393	1.0090666	0.9463343	1.422632	1.3183565	1.1258909	1.0638589	1.099802	0.8297582	1.0053861
Phase-1 RCT-34	1.2224481	1.092193	1.1345469	1.2246236	0.9222236	0.9998194	0.5914576	0.5671926	0.8161638	0.6764618	0.85102017	0.89815445	1.0807405

Table 28

0.9562536	0.8236984	0.6394338	0.9370287	1.0207202	1.0474843	1.5537046	1.2441758	1.0677193	0.9645977	0.9928149	0.95188737	0.8207147	0.8853438
0.9624534	0.9847704	1.2753224	1.0729103	1.063449	0.987743	2.0013642	2.4644535	2.474455	2.993367	3.5376008	2.993367	1.2519836	1.2529161
0.9472237	1.1435683	1.4264443	1.2485912	1.19857	1.2908908	0.4204362	0.3744644	0.7963659	0.7442575	0.73780544	0.40716347	0.5937420	0.5937420
0.9824397	0.9849531	0.9474334	1.0207717	1.0097741	1.2979557	1.1887141	1.3579452	1.2297162	1.2297162	0.9928055	1.2381337	1.0247147	1.0247147
1.0817204	1.1884693	1.1444358	1.5845752	1.3937264	1.5949757	0.37489025	0.33981193	0.3717576	0.3717576	0.6841817	0.6841817	0.92000383	0.92000383
0.9248548	0.9774824	1.0703876	1.0203876	1.0203876	1.0203876	1.0203876	1.0203876	1.0203876	1.0203876	1.0203876	1.0203876	1.0203876	1.0203876
0.9981732	1.1180599	0.9201166	1.0082476	1.1450429	0.3521877	0.7153287	0.7153287	0.7153287	0.7153287	0.7153287	0.7153287	0.7153287	0.7153287
0.7677212	1.081167	1.1765556	0.9267637	1.055248	1.055248	1.055248	1.055248	1.055248	1.055248	1.055248	1.055248	1.055248	1.055248
0.9709727	0.989275	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635
1.2954339	0.8652745	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635	0.9267635
0.9652030	0.9652030	1.3249968	0.9652030	1.3249968	0.9652030	1.3249968	0.9652030	1.3249968	0.9652030	1.3249968	0.9652030	1.3249968	0.9652030
1.0807101	0.8737346	0.9306956	1.0807101	0.8737346	0.9306956	1.0807101	0.8737346	0.9306956	1.0807101	0.8737346	0.9306956	1.0807101	0.8737346
1.0167769	0.8737346	1.345292	1.0167769	0.8737346	1.345292	1.0167769	0.8737346	1.345292	1.0167769	0.8737346	1.345292	1.0167769	0.8737346
1.2529302	1.140562	0.7083096	1.0089344	0.7083096	1.0089344	0.7083096	1.0089344	0.7083096	1.0089344	0.7083096	1.0089344	0.7083096	1.0089344
0.9769228	1.2637498	0.7083096	1.0089344	0.7083096	1.0089344	0.7083096	1.0089344	0.7083096	1.0089344	0.7083096	1.0089344	0.7083096	1.0089344
1.157483	0.9529834	0.7083096	1.0089344	0.7083096	1.0089344	0.7083096	1.0089344	0.7083096	1.0089344	0.7083096	1.0089344	0.7083096	1.0089344
0.8128943	0.829886	0.829886	0.829886	0.829886	0.829886	0.829886	0.829886	0.829886	0.829886	0.829886	0.829886	0.829886	0.829886
1.0797682	0.97586335	1.004325	1.0035151	0.9353594	0.7635045	0.8192198	0.7635045	0.8192198	0.7635045	0.8192198	0.7635045	0.8192198	0.7635045
0.9544707	0.935732	1.0145985	1.0242252	0.945322	0.98249014	0.5005442	0.98249014	0.5005442	0.98249014	0.5005442	0.98249014	0.5005442	0.98249014
0.9087539	0.97124966	1.04690114	0.8104443	0.8806808	0.6868992	0.7404865	0.7404865	0.7404865	0.7404865	0.7404865	0.7404865	0.7404865	0.7404865
1.0293572	1.077346	0.9282078	1.205826	1.2576586	1.3659481	1.2454153	1.3071941	1.0148063	0.98049635	1.0204212	1.0082223	0.9754583	1.2665211
0.7827731	0.80645955	1.1486633	1.1196882	1.0268708	1.47816047	0.9987804	0.4364055	0.8151811	1.024257	0.805131	1.4397844	1.0394468	
0.9525525	1.080589	0.9568505	1.0346481	0.8329894	0.79539356	0.8642389	0.9747195	0.8797423	0.7549113	0.772033	0.734214	1.241262	1.3192787
0.9232527	1.0168836	0.8942884	1.034638	1.0540404	1.1649108	1.1853388	1.1890132	1.019087	0.9258642	0.9702677	1.0110446	0.7963368	0.8139756
1.2624471	1.2578351	0.8334339	1.111057	0.9856558	1.0836252	0.85839725	0.72104394	0.58696325	0.74094635	0.59425935	1.0205993	1.2441192	
0.97650184	1.0205176	0.76056704	1.2422594	1.1230975	1.02130975	1.0546819	1.0197763	1.02130975	1.0546819	0.9913976	1.0439376	1.0471885	
0.9098943	0.9509878	1.0431648	0.7407705	1.0040487	1.077343816	0.7392091	0.9205565	0.9335778	0.9205565	0.9538736	0.9538736	0.76540955	
1.15324607	0.95449775	1.2538472	0.85087407	0.8369471	0.896318513	0.48931553	0.4681394	0.68800475	0.7239412	0.8181874	0.7043636	0.82681001	
0.82328557	0.7322595	1.0303938	1.0303938	1.0303938	1.0303938	1.0303938	1.0303938	1.0303938	1.0303938	1.0303938	1.0303938	1.0303938	1.0303938
0.805167	0.83337168	0.9767248	0.7486895	0.72416785	0.6959726	0.83944446	0.9142555	1.1934366	1.1634123	1.5507798	1.423187	0.8800379	0.8740521
1.0098594	0.9006344	1.0893948	1.0893948	1.0893948	1.0893948	1.0893948	1.0893948	1.0893948	1.0893948	1.0893948	1.0893948	1.0893948	1.0893948
0.935474883	0.92581463	1.3343939	0.87204087	0.5921443	0.69948376	0.6093754	0.7500727	0.9680950	0.8810506	0.804758	0.8338837	1.2151668	1.2057162
1.1874909	0.843546	1.0010659	1.086678	0.971411	0.9778908	0.696891	0.93632877	0.9091487	0.7785291	0.88238495	1.0703297	0.9323042	0.9367747
0.98317	0.929852	1.0411139	0.5761589	0.627019	0.9184844	1.2259584	1.1834436	1.352105	0.9735348	0.5022255	0.3845526	0.3845526	0.3845526
1.1405033	1.1571331	1.2307401	1.0713687	0.9316207	1.055114	1.0740338	1.1760338	0.9463905	0.8171165	0.5075325	0.8171165	0.5075325	0.8171165
1.2071922	1.1346451	0.9210342	0.9478708	0.9603978	1.8620132	2.26502	2.2574981	1.1697701	1.5963055	2.005535	0.726327	0.649559	0.649559
1.004116	0.9671749	1.0226275	0.95889046	0.98164105	0.9873968	0.8640337	0.8145967	0.9316987	1.1283632	1.3549253	0.9639294	0.8331388	0.8331388
1.709274	0.92431885	1.0873817	0.78924356	0.8468297	0.7260605	0.25402754	0.3197888	0.75827557	0.776826	0.2174262	0.8984059	0.7530251	
1.193887	0.7897303	1.249738	0.88618293	0.85264486	0.6961937	0.92858584	0.927843	1.0410438	0.6774611	0.7936211	0.8242619	1.0088435	
1.0547276	0.9818243	1.1252592	0.8818945	0.7266288	0.747023	0.3265168	0.18639188	0.25891688	0.66118516	0.48476785	0.30028960	0.82348247	0.820211866
1.1594788	1.1836208	1.3571175	0.8404336	1.2060229	1.0689256	1.0046531	0.81657884	0.9202867	0.8320882	0.5387152	0.9573122	0.7165744	
0.906889626	0.983371408	0.79361653	0.8383071	0.6758865	1.0917664	0.6758865	0.6135472	0.87015886	1.0320864	1.1937024	0.1746716	0.91192626	
0.87113938	1.1740443	1.0194268	0.96514785	0.78961927	0.79650923	1.5406135	1.1580743	1.893811	1.2131073	1.2673298	1.3355383	0.8759597	1.6565769
1.0124628	0.9349244	1.0194268	0.96514785	0.78961927	0.79650923	1.5406135	1.1580743	1.893811	1.2131073	1.2673298	1.3355383	0.8759597	1.6565769
0.7601674	0.79241574	1.03841	1.0237678	0.9474398	0.9632687	0.956878184	0.5941234	0.8545538	1.001618	0.9546748	0.7174595	0.90259254	0.7682447
0.8797463	0.94686724	1.0076941	1.0004589	0.9632687	0.9474398	0.9632687	0.9474398	0.9632687	0.9474398	0.9632687	0.9474398	0.9632687	0.9474398
0.94979925	1.1901558	1.382406	0.9733119	0.684541	0.8077158	0.6386071	0.65054087	0.87077168	0.96270526	0.891876	1.411882	0.9088927	0.8248486
0.9849861	0.9093537	0.93231225	1.302407	1.002828	1.1339092	0.84431294	0.63978744	0.4401838	0.5891575	0.9576118	0.932708	0.7780711	
1.1653951	0.9814162	1.1864195	1.0725584	0.9418575	1.0571867	0.68650804	0.69772887	0.94463718	0.74143285	0.54136284	0.80376143	0.7500747	0.8532773
0.93701384	0.85371368	0.8164953	0.8669193	0.6796553	0.8545955	0.657654	1.0701461	1.21078	0.93724483	1.031168	1.0740717	1.1828247	0.78559406
0.9470198	1.0368488	0.88959354	0.90355116	0.8506447	0.8667654	1.1525304	1.0893494	0.45740885	0.7257558	0.72008771	0.87780026	0.9062117	0.78407028
1.27197159	1.2623585	1.1393535	1.1050122	0.91185775	1.1615347	0.67176508	0.44543133	0.4028813	0.60397536	0.94531167	0.9281774	0.78994197	0.84857837
0.989887	0.989887	0.989887	0.989887	0.989887	0.989887	0.989887	0.989887	0.989887	0.989887	0.989887	0.989887	0.989887	0.989887
0.82086861	1.1281622	1.194028	1.0952258	1.0784419	1.0784419	1.0784419	1.0784419	1.0784419	1.0784419	1.0784419	1.0784419	1.0784419	1.0784419
0.80075897	0.9965204	1.0922268	0.7689371	0.79942128	0.79942128	0.79942128	0.79942128	0.79942128	0.79942128	0.79942128	0.79942128	0.79942128	0.79942128
1.00355805	0.98083426	1.0446522	1.0046522	1.2014457	0.6296736	0.92796137	0.6296736	0.92796137	0.6296736	0.92796137	0.6296736	0.92796137	0.6296736
1.0370411	0.8860239	1.0574193	0.9996243	1.1519536	0.94411477	0.94411477	0.94411477	0.94411477	0.94411477	0.94411477	0.94411477	0.94411477	0.94411477
1.2769284	1.9252383	1.4574193	0.9896434	1.4110396	0.9582617	1.391875	0.7082488	1.2594132	0.7082488	1.2594132	0.7082488	1.2594132	0.7082488
0.94979925	1.1901558	1.382406	0.9733119	0.684541	0.8077158	0.6386071	0.65054087	0.87077168	0.96270526	0.891876	1.411882	0.9088927	0.8248486
0.9849861	0.9093537	0.93231225	1.302407	1.002828	1.1339092	0.84431294	0.63978744	0.4401838	0.5891575	0.9576118	0.932708	0.7780711	
1.1653951	0.9814162	1.1864195	1.0725584	0.9418575	1.0571867	0.68650804	0.69772887	0.94463718	0.74143285	0.54136284	0.80376143	0.7500747	0.8532773
0.93701384	0.85371368	0.8164953	0.8669193	0.6796553	0.8545955	0.657654	1.0701461	1.21078	0.93724483	1.031168	1.0740717	1.1828247	0.78559406
0.9470198	1.0368488	0.88959354	0.90										

Table 28

Phase-1 RCT-3	1.1422381	0.9731918	0.9059333	1.0744514	1.1681875	1.1702262	1.0291104	0.9137565	1.055478	0.8653286	1.0118534	0.8448859	1.0138573	0.91641825
Felitin beta (Fetb)	0.8892115	0.8072974	1.1727606	1.2176603	1.1091228	1.1311313	0.4582422	0.4532422	0.7380205	0.801477	0.944035	0.783945	1.0290033	1.0083946
3-hydroxyisovalerate dehydrogenase	0.8728288	0.9102204	1.0620218	0.9184578	0.8578318	1.0033944	0.3442118	0.3442118	0.5915542	0.7011480	0.5840247	0.5288823	0.94717958	0.7680774
Carbonic anhydrase III, sequence 2	0.7575689	0.8346953	0.8595333	1.214091	1.2089181	1.0930477	0.3268348	0.3268348	0.5846427	0.79267615	0.7077563	0.7466804	0.90538885	0.90538885
Phase-1 RCT-10	1.3013035	0.85510888	0.9611709	1.051451	1.0422574	1.0646402	0.3706358	0.28713322	0.3666665	0.18193914	0.4246634	0.1424018	1.0273541	0.7021677
Alpha-2-macroglobulin	1.1667441	1.1275846	0.8944368	0.8716298	1.6451012	0.8622333	0.21351078	0.21351078	0.3663824	0.4618651	0.48290632	0.6152695	0.72438234	0.5728859
Dynamin-1 (D100)	0.8502435	0.8372554	0.9052832	1.2559071	1.163664	1.1301312	0.5621112	0.5621112	0.50525463	0.80685487	0.9136085	0.59103817	0.9069206	0.7884968
Leu-1	1.0345438	0.9675087	0.8119867	1.224237	1.4905483	1.5407555	0.50503063	0.50503063	0.8363014	0.7298113	1.037748	0.6890021	0.7804682	0.8158171
Phase-1 RCT-252	0.63203825	0.967308	1.2435949	1.0562801	0.8664324	1.0890473	0.84503063	0.84503063	1.2204478	0.3353903	1.2204478	0.3353903	1.2204478	0.3353903
Phase-1 RCT-29	0.8020153	1.0632385	1.0459249	1.1105569	1.1728984	0.8084021	0.8582985	0.8582985	0.8420059	1.0309014	0.9430663	0.8233657	0.9138375	0.84517384
Phase-1 RCT-278	0.9304941	1.0072373	1.1692192	1.0545942	0.8400544	0.8084021	0.8582985	0.8582985	0.8420059	1.0309014	0.9430663	0.8233657	0.9138375	0.84517384
Phase-1 RCT-42	0.9933554	0.9625588	1.0479264	1.011982	1.0455017	0.8378158	0.8582985	0.8582985	0.8420059	1.0309014	0.9430663	0.8233657	0.9138375	0.84517384
0.87668708	0.9320811	1.0200685	1.0020689	0.96388016	1.0768589	1.0479264	1.011982	1.0455017	0.8378158	0.8582985	0.8582985	0.8420059	1.0309014	0.9430663
Cytidine P450 2C11	0.8945824	0.6625944	1.0200685	1.0020689	0.96388016	1.0768589	1.0479264	1.011982	1.0455017	0.8378158	0.8582985	0.8582985	0.8420059	1.0309014
Phase-1 RCT-202	1.2692984	1.2037691	1.2401667	0.9327974	0.9773777	0.8090047	0.8993432	0.8993432	0.85542155	0.888451	1.0439312	1.248915	1.0618988	0.93135834
Complement factor 1 (CF1)	1.1899593	1.1482853	1.354283	0.707026	0.8058707	0.8094149	0.6993432	0.6993432	0.85542155	0.888451	1.0439312	1.248915	1.0618988	0.93135834
Proliferating cell nuclear antigen gene	0.98920596	1.0091459	0.9085991	1.3036784	1.154817	1.3424358	1.1728984	1.1728984	0.8087356	0.8787235	1.1831771	1.2031685	1.1143941	0.9657635
Activating transcription factor 3	0.9526545	0.9992553	0.9460166	1.2127811	1.1242064	1.2143363	0.8540494	0.8540494	0.8087356	0.8787235	1.1831771	1.2031685	1.1143941	0.9657635
Adhesion kinase (pp125FAK)	0.83911735	0.9397891	0.8959557	0.9151267	1.0396539	0.989453	1.249245	1.249245	0.565811	0.710962	1.173637	1.242578	1.240816	0.9106903
Phase-1 RCT-289	0.7444939	0.88730943	0.84607	1.0276418	0.9650249	0.9856671	1.382173	1.382173	0.733065	0.565811	0.710962	1.173637	1.242578	1.240816
Phase-1 RCT-269	0.8313458	1.0164447	0.9817814	1.0321673	1.2826955	1.1382173	0.9650249	0.9650249	0.733065	0.565811	0.710962	1.173637	1.242578	1.240816
Interleukin-6	1.1581432	1.0244161	1.0808084	0.9994835	0.8113191	0.96945514	0.6414047	0.6414047	0.53166674	0.8725868	0.78151923	0.4980847	0.76677624	0.56071783
MHC class II antigen RT1.A10 alpha-chain	0.9708466	1.1782324	1.121868	1.4534055	1.1601518	1.5178262	1.452018	1.452018	0.5789882	0.5507506	0.6238673	0.8316544	0.9421171	0.5798056
Aryl sulfotransferase	0.8427229	0.9520256	1.385839	0.8494584	0.8244887	0.975543	0.975543	0.975543	0.5507506	0.6238673	0.8316544	0.9421171	0.5798056	0.8758316
Phase-1 RCT-171	0.8653948	0.9327162	0.9433051	1.0549871	1.047105	1.1351195	0.8148535	0.8148535	0.8530213	0.865381	0.8764432	0.8568381	0.7400593	0.9834735
Phase-1 RCT-83	0.8604357	0.8750098	0.8744843	0.7679393	0.86244814	0.91973681	1.0445007	1.0445007	0.8074693	0.937216	1.295561	1.522063	1.352436	0.8216563
Phase-1 RCT-270	1.1687849	0.8694931	0.8944253	0.95977813	0.7339264	0.9525178	0.3805248	0.3805248	0.3067483	0.937216	1.295561	1.522063	1.352436	0.8216563
Colony-stimulating factor-1	1.0228156	1.0678892	1.1674466	0.8595217	0.6576027	0.7252988	0.7252988	0.7252988	0.3067483	0.937216	1.295561	1.522063	1.352436	0.8216563
N-cadherin	0.7706651	0.8667323	0.822072	1.002831	0.876924	0.80478793	1.242692	1.242692	0.592608	0.5168133	0.8134642	0.8521148	0.8511193	0.4501355
Phase-1 RCT-42	0.7733235	0.8384971	0.7561526	0.2996685	1.1467674	1.242692	0.592608	0.592608	0.5168133	0.8134642	0.8521148	0.8511193	0.4501355	0.4501355
AT-3	0.7955966	1.017448	0.9110778	0.9958779	0.9298887	0.876292	0.9593777	0.9593777	0.592608	0.5168133	0.8134642	0.8521148	0.8511193	0.4501355
Phase-1 RCT-18	0.92765828	0.85231056	0.8310568	0.92180115	1.0671057	1.024556	1.0503371	1.0503371	0.592608	0.5168133	0.8134642	0.8521148	0.8511193	0.4501355
Phase-1 RCT-123	0.89249665	0.85712513	0.8710384	1.0255771	1.1607585	1.4343021	1.054359	1.054359	0.592608	0.5168133	0.8134642	0.8521148	0.8511193	0.4501355
Phase-1 RCT-66	0.8392551	0.87068585	0.8487685	1.1891154	1.1339612	0.90364406	0.61625427	0.61625427	0.592608	0.5168133	0.8134642	0.8521148	0.8511193	0.4501355
Phase-1 RCT-155	1.1680657	0.9174283	1.0302451	0.9300705	0.9414328	0.91971105	0.5487855	0.5487855	0.592608	0.5168133	0.8134642	0.8521148	0.8511193	0.4501355
Equilibrative nucleoside/nucleosine-sensitive nucleoside transporter	0.8931985	0.8494519	0.8038206	1.0255846	0.7445184	0.7546983	0.50714403	0.51755937	0.6827451	0.6166876	0.47448	0.58978334	0.874835	0.5877696
Glucose transporter 2	0.8923441	1.1803335	0.91132486	1.107205	0.8975934	0.91967244	1.2971909	1.2971909	1.2692947	1.1019565	1.1603678	1.4050467	1.243526	1.3164915
Multidrug resistant protein-2	0.9518973	0.9806008	1.2441146	0.9400484	0.927845	1.3215643	1.5792865	1.5792865	1.5688532	2.148354	3.8472168	3.8472168	2.533758	0.9854019
Phosphatidylethanolamine-binding protein	0.8574835	1.0878801	1.2795151	0.9132016	0.906092	1.3235102	1.454185	1.454185	3.0554683	6.386138	5.6841407	2.9707875	1.0194755	1.2442843
Phase-1 RCT-180	1.2572047	1.1342717	1.1596977	1.0385868	1.025897	1.3351016	0.9007096	0.9007096	0.7996006	0.8803083	1.4302558	2.807552	1.5345566	1.0804117
Integrin beta-4	0.8947966	1.0847699	1.27374	1.0843438	0.9658476	0.7002895	1.1841048	1.1841048	1.2478289	1.3025394	1.5031159	1.9234532	1.8026817	0.81803766
NADPH cytochrome P450 oxidoreductase	1.0740211	1.0815682	0.8532565	1.0373653	1.2357535	1.16114	1.3528949	1.3528949	1.2915404	1.2161988	1.13141	1.0146214	1.0095758	1.0486859
Waf1	1.0623854	1.0085387	0.8164891	1.1248941	1.1657095	1.1657095	1.1657095	1.1657095	1.1657095	1.1657095	1.1657095	1.1657095	1.1657095	1.1657095
Endogenous retroviral sequences, 5' and 3' LTR	0.7114831	1.0412842	1.0765393	0.9412326	0.9412326	0.9412326	0.9412326	0.9412326	0.9412326	0.9412326	0.9412326	0.9412326	0.9412326	0.9412326
Phase-1 RCT-53	0.90475805	0.97348267	1.0248792	0.957535	0.9460522	1.0183752	0.9903582	0.9903582	1.3408613	1.3828286	1.0203179	1.0202395	1.3678962	1.3439006
Phase-1 RCT-240	1.0068713	1.1263027	0.957535	0.9460522	1.0183752	0.9903582	0.9903582	0.9903582	1.3408613	1.3828286	1.0203179	1.0202395	1.3678962	1.3439006
Phase-1 RCT-44	0.9939922	1.0759085	0.8712104	0.957707	0.9033078	0.7754485	1.4947039	1.4947039	1.4187905	0.9894455	1.2611762	1.293867	1.3518654	1.2361711
Organic anion transporting polypeptide 1	1.0893035	1.2283897	1.5341511	0.8199865	0.852495	0.8075797	0.8075797	0.8075797	0.8075797	0.8075797	0.8075797	0.8075797	0.8075797	0.8075797
Phase-1 RCT-241	1.062709	1.0011588	0.99024135	1.1886762	0.9270473	1.1904605	0.92314625	0.92314625	0.85627625	1.248945	0.8349823	0.8971723	0.8161718	1.3617836
Tissue factor pathway inhibitor	0.9711294	1.4115382	1.0927584	1.2145305	1.4509385	1.0927584	0.961172	0.961172	6.966905	7.333333	4.83853	10.40194	20.69695	0.8850841
Cyclin-dependent kinase 4 inhibitor P27kip1 (alternate form)	1.0150595	1.2392886	1.2354411	1.0884552	1.2397684	1.097322	1.92298	1.92298	2.4149342	2.124245	1.8354897	2.0044148	1.296373	1.8276895
Phospholipase D	0.814579	1.0598424	1.1561276	1.0168938	1.033314	0.8608234	2.010463	2.010463	1.865168	1.3624718	2.5527413	2.8053318	3.7262271	1.9580272
Phase-1 RCT-39	1.1652151	1.1064135	1.1145973	1.0870785	1.089752	0.935567	1.1788287	1.1788287	1.250168	1.3101102	1.313414	1.9473325	1.5561515	0.9742665
Phase-1 RCT-113	0.653385	1.1541713	1.1893532	1.376915	1.1506282	1.0716986	1.1368386	1.1368386	1.0716986	1.0716986	1.0716986	1.0716986	1.0716986	1.0716986
Adenosine nucleoside translocator 1	0.8673047	1.2109748	0.8429897	0.8327155	0.827567	1.2187184	1.0884919	1.0884919	1.2291195	1.379147	1.3316985	0.7040711	1.5403024	0.7403024
Alpha-1 acid phosphatase	0.9571238	1.4333671	4.70004	1.0903844	1.0436417	1.2618029	4.508493	4.508493	4.816766	18.4275	20.817229	1.0378089	1.0890191	1.0890191
MHC class II antigen RT1.B-1 beta-chain	0.95679075	1.4240277	0.7423931	1.0500997	2.304769	2.957215	0.9445169	0.9445169	0.9702276	0.73944	0.8055407	1.0530485	1.2686187	1.264002

Organic cation transporter 3	0.85417356	0.8509718	1.1386498	0.6767932	0.8319373	0.617214	1.181572	1.2196657	1.3903160	1.2023584	1.8117698	1.8012406	0.86018675	0.82486533
Hypoxia-inducible factor 1 alpha	1.2035633	1.2784824	1.0129552	1.1276222	1.1439102	1.1601338	1.3128605	1.3411768	1.0386597	1.3518163	1.477111	1.6717621	1.0428073	1.1540596
Phase-1 RCT-43	1.0306323	1.2271686	1.0195292	0.9097411	0.8717761	0.8007717	1.1706386	1.3280037	1.4971082	1.3747172	1.4428587	1.9434389	1.046436	1.1948143
Phase-1 RCT-46	1.0615119	1.2178372	0.8133441	0.9814718	0.99120957	0.8459142	1.1016442	1.1855029	0.9876981	0.8456555	0.8973235	0.9003658	0.868393	0.94739455
Mitochondrial cytochrome c, cytosolic	0.96273275	0.9103273	1.6265707	0.839088	0.71012187	0.7341807	0.5033197	0.45785557	0.57295377	0.38122823	0.8342587	0.6399433	0.8575673	0.8224324
IL-30 element	0.69861035	0.7250477	1.0768445	0.9493821	0.9866524	0.30481562	1.001755	0.87008154	1.4787298	0.78183174	0.6884462	0.90064037	1.088706	1.1420548
Phase-1 RCT-189	1.131817	1.0012103	1.0593268	1.3008734	1.1671093	1.4089048	0.5980087	0.47882652	0.6388861	0.36354225	0.93359153	0.754526	1.087782	0.90987806
Alpha-fetoprotein	0.9673724	1.0300446	0.8249416	0.9650452	0.88003505	1.358508	0.9583612	1.0772805	1.104028	0.987001	0.8507846	0.9970176	0.8865309	0.77783704
Calgranulin B	0.97713916	0.9804831	1.0367721	0.8249118	0.90461355	1.27214	0.50395346	0.36402673	0.65744597	0.86781796	0.8184285	0.72374528	0.684053	0.59505807
Tissue plasminogen activator	0.93028847	0.9031077	0.93141333	0.889385	1.020296	1.0375171	0.9947151	0.50529886	0.6697206	0.8396912	1.1681029	1.542196	0.94790757	0.94010216
Phase-1 RCT-185	1.2019813	1.060084	1.2433772	0.9172371	0.92324195	0.689408	0.63619906	0.27977642	0.62610073	0.7818232	1.1591594	0.81704628	0.89133894	0.7087855
Liver fatty acid binding protein	1.3139386	1.1708956	1.1898655	1.287336	0.98716456	0.95951074	0.5046398	0.468505	0.79533136	0.9560704	0.89133894	0.8685601	0.8673918	0.9788305
Alpha-1 microglobulin/bikunin precursor (Ampb)	1.1527981	1.018147	1.2130249	0.921517	0.9268967	0.91634935	0.6455872	0.2534477	1.274827	0.907848	0.8153599	1.365784	0.8228207	0.84660639
Phase-1 RCT-294	0.91963968	0.90947987	0.9587167	1.0132949	0.8615782	0.9023169	0.9033704	0.478469	0.7810822	1.1819122	1.1768075	0.8398817	0.5297919	1.088921
Phase-1 RCT-151	0.9588433	0.89133114	1.1231882	1.3267965	1.4191161	1.28897	1.3115501	1.3027364	1.0541693	0.9698536	0.8398817	0.5297919	0.5353955	1.088921
Phase-1 RCT-158	1.0482938	1.0919879	0.8407727	0.8779567	0.9119122	0.7612242	0.8988628	1.1171518	0.9522474	1.1702023	1.0630688	1.0842638	1.0972105	1.2254709
Phase-1 RCT-221	0.88695654	1.0090134	1.1305184	0.8541992	0.84768236	0.85411968	1	1.06843	0.9903808	1.190444	1.0721369	0.97580346	0.98187353	1.196438
Phase-1 RCT-235	0.9101939	0.96071895	0.80730534	1.151909	0.8806627	1.8443311	1.2474333	1.0983318	1.2080693	0.72485775	0.65348065	0.7115784	1.3500048	1.168321
Organic anion transporter 3	0.81689014	0.909719093	1.1867009	1.0109553	0.94322777	0.95396813	0.88935184	1.0111685	1.1912407	1.4351728	2.035382	0.8716346	0.7547575	0.53738955
Matrix metalloproteinase-1	1.6810728	1.127861	1.1706344	0.9528336	0.94528833	0.9305328	0.59432524	0.73296575	0.6525193	0.8359442	0.8716346	0.7241975	0.7547575	0.53738955
Urinary protein 2 precursor	1.1306477	0.99458015	1.0897845	1.0095264	1.0338789	0.9202671	0.9132324	0.89087695	0.9327826	0.86228055	0.8638354	0.8662546	0.9573773	0.853335
Phase-1 RCT-212														
(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 18).														
(2) Compound and dose abbreviations as in Table 1.														
(3) Individual animal number														
(4) Liver inflammation classification for compound-dose group at 72 h: yes=rec. necrosis observed; yes-both, necrosis with inflammation observed; no, no inflammation observed														
(5) Predictive gene (as in Table 18 and as included in Table 29)														

Table 28

Table 26. Expression Data for 6 Hour Timepoint (1)															
Compound/Dose (2)	CPHOS 25	CPHOS 100	CPHOS 100	CPHOS 100	CPHOS 100	CPHOS 100	CPHOS 100	CPHOS 100	CPHOS 100	CPHOS 100	CPHOS 100	CPHOS 100	CPHOS 100	CPHOS 100	CPHOS 100
Animal Number (3)	2143	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164
Gene Name (5)	1.086005	2.4947174	1.2253555	1.3959797	1.433312	1.433312	1.433312	1.433312	1.433312	1.433312	1.433312	1.433312	1.433312	1.433312	1.433312
Insulin-like growth factor binding protein 1	1.303258	1.0537983	1.2455905	1.007754	1.433312	1.433312	1.433312	1.433312	1.433312	1.433312	1.433312	1.433312	1.433312	1.433312	1.433312
Gadd153	1.3797395	1.2359718	1.2359718	1.2359718	1.2359718	1.2359718	1.2359718	1.2359718	1.2359718	1.2359718	1.2359718	1.2359718	1.2359718	1.2359718	1.2359718
c-myc	1.1988578	1.1988578	1.1988578	1.1988578	1.1988578	1.1988578	1.1988578	1.1988578	1.1988578	1.1988578	1.1988578	1.1988578	1.1988578	1.1988578	1.1988578
NFkB	0.9527626	1.0897235	1.0897235	1.0897235	1.0897235	1.0897235	1.0897235	1.0897235	1.0897235	1.0897235	1.0897235	1.0897235	1.0897235	1.0897235	1.0897235
Calpains L sequence 2	1.2321039	1.3625948	1.3625948	1.3625948	1.3625948	1.3625948	1.3625948	1.3625948	1.3625948	1.3625948	1.3625948	1.3625948	1.3625948	1.3625948	1.3625948
Heme oxygenase	1.5341467	1.4060395	1.4060395	1.4060395	1.4060395	1.4060395	1.4060395	1.4060395	1.4060395	1.4060395	1.4060395	1.4060395	1.4060395	1.4060395	1.4060395
Phase-1 RCT-111	0.63000346	0.73476385	0.6565252	0.29141905	0.84356413	0.84356413	0.84356413	0.84356413	0.84356413	0.84356413	0.84356413	0.84356413	0.84356413	0.84356413	0.84356413
Argininosuccinate lyase	1.1910741	1.3025428	1.3423636	1.3933081	1.1130681	1.3933081	1.3933081	1.3933081	1.3933081	1.3933081	1.3933081	1.3933081	1.3933081	1.3933081	1.3933081
DNA polymerase beta	0.618532	0.8194764	0.67029677	0.3600851	0.9922133	0.9922133	0.9922133	0.9922133	0.9922133	0.9922133	0.9922133	0.9922133	0.9922133	0.9922133	0.9922133
Ribosomal protein S9	1.1414598	0.30343476	0.87612665	0.88425894	1.0818652	1.0818652	1.0818652	1.0818652	1.0818652	1.0818652	1.0818652	1.0818652	1.0818652	1.0818652	1.0818652
Phase-1 RCT-114	1.3648192	1.4216772	1.2252669	1.8802882	0.97497876	1.2182475	1.2182475	1.2182475	1.2182475	1.2182475	1.2182475	1.2182475	1.2182475	1.2182475	1.2182475
Phase-1 RCT-15	0.9582155	1.8975666	1.4023637	1.81745	1.1189542	1.1189542	1.1189542	1.1189542	1.1189542	1.1189542	1.1189542	1.1189542	1.1189542	1.1189542	1.1189542
Macrophage inflammatory protein-2 alpha	0.7577347	0.8182016	0.66985145	0.8758684	0.7221895	0.8037983	0.77657767	0.83920763	0.8357265	0.8228612	1.0475305	0.8070878	0.854571	0.88090956	0.88090956
NGF-inducible anti-proliferative putative secreted protein (PC3)	1.7775671	1.2287011	1.3571635	1.8885899	1.2104044	0.9575897	0.97602457	0.9218824	1.0935875	0.9794379	1.2650518	1.0535668	1.2521787	1.5555875	1.5555875
Phase-1 RCT-161	1.4359596	1.238489	1.3947375	1.3905396	1.8145373	1.063219	1.1630223	1.2651647	1.2708711	1.3161339	1.3271405	1.5619116	1.3195389	1.157402	1.157402
Cyclin D3	0.9152184	1.0454543	0.824949	1.2278924	1.242057	1.598238	1.534539	1.200168	1.4163213	1.382232	0.8845426	1.190502	0.931053	0.826088	0.826088
Phase-1 RCT-108	1.1487452	1.3159002	1.4000332	1.3821108	1.0940012	1.3714831	1.3018214	1.0674962	1.024394	1.163934	1.0427574	1.0378	0.9670983	1.0387292	1.0387292
Phase-1 RCT-109	0.9569346	0.6804294	0.4837688	0.49051148	0.8873962	0.87177847	0.87404374	1.0845951	0.9627687	0.82537016	1.0288439	1.086279	1.066279	0.9738086	0.9738086
Phase-1 RCT-175	1.2245024	1.0181582	0.7215503	1.065369	1.068229	1.0216611	1.0416287	1.0132331	1.0364784	0.82537016	1.0288439	1.086279	1.066279	0.9738086	0.9738086
Acetyl-CoA carboxylase	1.0508207	0.8337498	0.8834515	0.84162074	0.9767702	0.850153	0.9375011	1.0517295	1.0813622	1.0360164	1.097692	0.9675013	0.93140775	1.0753924	1.0753924
Phase-1 RCT-85	1.1825766	1.2684954	1.3211199	1.3761668	1.1635008	1.2983075	1.3280808	1.045338	1.0370655	1.1893856	1.0832669	0.9671612	0.96788757	0.993824	0.993824
Cyclin C	0.944388	0.7933037	0.94150956	0.9778956	1.0617732	1.1581447	1.1604351	0.9269762	1.236216	1.1589782	0.8014867	0.85254713	0.87256414	1.1160021	1.1160021
Phase-1 RCT-49	1.1717484	1.0387559	1.087748	1.0952854	1.031445	1.1843788	1.1604351	0.9269762	1.236216	1.1589782	0.8014867	0.85254713	0.87256414	1.1160021	1.1160021
Phase-1 RCT-9	1.0603755	0.6300763	0.6818536	0.8573547	0.8770622	1.031445	1.1843788	1.1604351	0.9269762	1.236216	1.1589782	0.8014867	0.85254713	0.87256414	0.87256414
Gadd45	1.4902218	1.4902218	1.4902218	1.4902218	1.4902218	1.4902218	1.4902218	1.4902218	1.4902218	1.4902218	1.4902218	1.4902218	1.4902218	1.4902218	1.4902218
Phase-1 RCT-156	1.157174	1.2876752	1.3242923	1.3890814	1.266472	1.2728598	1.2767326	1.0496461	1.0312539	1.1762982	0.8539909	0.7932973	0.76409686	1.0975856	1.0975856
Phase-1 RCT-127	0.729054	0.69061553	0.7335169	0.849578	0.8178224	1.0083987	0.96405215	1.0449039	0.8192608	1.1762982	0.8539909	0.7932973	0.76409686	1.0975856	1.0975856
Macrophage inflammatory protein-1 alpha	1.1590765	1.0408914	1.003346	1.0382468	0.9632683	1.3286881	1.4025546	0.99534756	1.3650078	1.7838349	1.7838349	1.7838349	1.7838349	1.7838349	1.7838349
Zinc finger protein	1.1750396	0.7070101	1.3797919	1.015572	1.0115398	0.7662807	0.8223391	0.89517784	0.89517784	0.89517784	0.89517784	0.89517784	0.89517784	0.89517784	0.89517784
Phase-1 RCT-73	0.838891	0.8978893	0.580556	0.9169046	0.9532917	0.8357233	0.89517784	0.89517784	0.89517784	0.89517784	0.89517784	0.89517784	0.89517784	0.89517784	0.89517784
Glutamine synthetase	0.87066025	0.47597483	0.6574614	0.9403165	1.1707477	1.342221	1.4024062	1.581529	1.3588247	1.177335	0.77741575	0.734317	0.747693	0.5953533	0.5953533
Calc-binding protein	0.6300583	0.55654135	0.57627714	0.6627492	1.005138	1.305964	1.3145851	1.105426	1.0395462	0.9891263	1.2401409	1.2913025	1.3919817	1.381328	1.381328
Phase-1 RCT-242	1.4243038	1.2592949	1.2363948	1.2231609	0.9339597	0.94755036	0.966293	0.9184537	1.035138	1.0072553	1.1225268	1.1225268	1.1225268	1.1225268	1.1225268
Phase-1 RCT-50	0.8181895	1.0595847	0.8653854	1.1368806	1.1768147	1.1768147	1.1768147	1.1768147	1.1768147	1.1768147	1.1768147	1.1768147	1.1768147	1.1768147	1.1768147
Elongation factor-1 alpha	0.70340575	1.0409558	0.9001384	1.1790959	1.0570681	1.2862569	1.2862569	1.2862569	1.2862569	1.2862569	1.2862569	1.2862569	1.2862569	1.2862569	1.2862569
Insulin-like growth factor binding protein 5	1.1215075	2.068756	1.2068584	1.6846242	1.248186	1.237824	1.237824	1.237824	1.237824	1.237824	1.237824	1.237824	1.237824	1.237824	1.237824
Phase-1 RCT-59	1.5010566	1.149402	1.2132139	1.2670302	1.3771684	1.3771684	1.3771684	1.3771684	1.3771684	1.3771684	1.3771684	1.3771684	1.3771684	1.3771684	1.3771684
Phase-1 RCT-76	1.0679943	1.1848948	1.2277837	1.5810862	1.002547	1.1281986	1.0807376	1.1163802	1.145951	0.8559114	1.137444	1.2653494	1.1582404	1.620731	1.620731
Phase-1 RCT-109	1.1277822	1.3179508	1.4550163	1.933394	1.19115	1.4408635	1.410367	1.2435436	1.2366388	1.3772589	2.1065334	2.0705603	1.9158683	1.2941688	1.2941688
Selenoprotein P	1.3002776	2.3920352	1.6303383	1.9872931	0.7653745	0.91089255	0.9576925	1.0554192	0.7133842	1.0063157	1.102701	1.0742972	0.9369315	0.9607744	0.9607744
PTEN/MAO1	0.63784533	1.01650564	0.7820033	0.8332317	0.824123	0.7942634	0.8298439	0.8298439	0.8298439	0.8298439	0.8298439	0.8298439	0.8298439	0.8298439	0.8298439
Phase-1 RCT-214	0.86332534	1.129009	0.970295	0.91460496	1.2151928	1.061689	1.0363094	1.314017	1.111955	1.0051869	0.9513802	1.2175043	1.1829295	0.8556294	0.8556294
Phase-1 RCT-112	0.86252658	0.7405044	0.7018666	0.854378	0.9933804	0.9410229	0.8658012	0.9376137	0.76425365	0.8332628	0.82084285	0.8071424	0.7818713	0.5956691	0.5956691
Thymidine synthase	1.3200158	1.0384502	1.1203982	0.9954943	1.0290262	0.8720166	0.8659466	1.000214	0.9405811	0.7802485	0.86772164	0.86772164	0.86772164	0.86772164	0.86772164
Phase-1 RCT-13	0.96871635	1.0370343	0.994744	1.0224415	1.0290262	0.8720166	0.8659466	1.000214	0.9405811	0.7802485	0.86772164	0.86772164	0.86772164	0.86772164	0.86772164
Nucleosome assembly protein	0.6488344	0.7904748	0.6485553	0.6802013	0.7871926	1.146516	1.146516	1.146516	1.146516	1.146516	1.146516	1.146516	1.146516	1.146516	1.146516
Phase-1 RCT-13	0.59122485	0.5285967	0.73322685	0.90419424	0.80718397	0.62313926	0.6552236	0.80564946	0.7347529	0.6167134	0.7024464	0.7175732	0.955516	1.1919459	1.1919459
Crabapple 7-alpha-hydroxylase (P450 VII)	0.75025594	0.7788107	0.8876715	0.93503225	0.9715853	0.9715853	0.9715853	0.9715853	0.9715853	0.9715853	0.9715853	0.9715853	0.9715853	0.9715853	0.9715853
Vesicular monoamine transporter (VMAT)	1.6171609	1.0101476	1.2135231	1.1349757	0.81897124	0.81897124	0.81897124	0.81897124	0.81897124	0.81897124	0.81897124	0.81897124	0.81897124	0.81897124	0.81897124
Phase-1 RCT-260	1.3075374	0.97642136	1.0363853	0.88804823	0.7679815	0.8362208	0.8295242	0.718392	0.71918555	1.0350372	0.9897553	1.2242185	1.1087293	1.1087293	1.1087293

Phase-1 RCT-32	0.8469775	0.8940812	0.8943286	1.1911687	1.5274721	1.2821856	0.8058317	1.0746735	1.2124034	1.2993271	0.8413243	0.8559117	1.2387833	1.5780532
Paroxysmal assembly factor 1	1.5325046	1.4200673	1.2511918	1.2271715	1.3467733	1.2074499	1.1042466	1.2103531	1.1922539	1.2573432	1.1812778	1.2121663	1.0295517	
Paroxysmal assembly factor 2	1.3216433	1.0300897	0.9211237	0.9585348	1.0740162	1.0356677	0.9592436	0.9589791	0.9333333	0.9633333	0.9333333	0.9333333	0.9333333	
Phase-1 RCT-82	1.4272118	0.9633333	1.0921866	0.80224626	0.96153104	0.89376545	0.8067944	0.8419494	0.8460043	0.7556233	1.0072405	1.1334455	0.9366883	
Phase-1 RCT-184	1.0073862	0.9763432	0.8635476	0.99724146	0.79191536	0.81563047	0.79191536	0.81563047	0.79191536	0.81563047	0.79191536	0.81563047	0.79191536	
Phase-1 RCT-168	0.646455	0.7139157	0.5982024	0.51447725	0.63732414	0.6988438	0.6088438	0.6088438	0.6088438	0.6088438	0.6088438	0.6088438	0.6088438	
Phase-1 RCT-119	0.91775626	0.8990294	1.004354	1.042591	0.92176017	0.92176017	0.92176017	0.92176017	0.92176017	0.92176017	0.92176017	0.92176017	0.92176017	
Carbonic anhydrase II	1.08576	0.524036	1.220245	0.6992716	0.84838557	0.84838557	0.84838557	0.84838557	0.84838557	0.84838557	0.84838557	0.84838557	0.84838557	
Carbonic anhydrase I	0.94030154	0.758134	1.0477817	0.9742562	0.81330088	0.81330088	0.81330088	0.81330088	0.81330088	0.81330088	0.81330088	0.81330088	0.81330088	
Phase-1 RCT-171	0.86412355	1.053451	1.255167	1.119555	1.1631237	1.1631237	1.1631237	1.1631237	1.1631237	1.1631237	1.1631237	1.1631237	1.1631237	
Phase-1 RCT-179	0.600083	0.871637	0.7077774	1.009307	1.1078361	1.1078361	1.1078361	1.1078361	1.1078361	1.1078361	1.1078361	1.1078361	1.1078361	
Phase-1 RCT-207	1.3157917	1.3795277	1.3000937	1.1460368	1.114239	1.114239	1.114239	1.114239	1.114239	1.114239	1.114239	1.114239	1.114239	
Phase-1 RCT-144	1.0168767	1.0562966	1.060649	1.0540496	1.3902147	1.518047	1.260566	1.260566	1.260566	1.260566	1.260566	1.260566	1.260566	
Phase-1 RCT-225	1.1373031	0.7953034	0.78408524	0.6127531	1.3494039	1.4222478	1.3610284	0.802034	0.802034	0.802034	0.802034	0.802034	0.802034	
Cytoskeleton P450 2E1	0.5902626	0.5843836	0.5954781	0.8424572	0.8424572	0.8424572	0.8424572	0.8424572	0.8424572	0.8424572	0.8424572	0.8424572	0.8424572	
ID-1	1.659492	0.9022518	1.1492183	0.8907916	1.2077941	1.0905391	0.9305104	1.0905391	1.0905391	1.0905391	1.0905391	1.0905391	1.0905391	
Thrombin-1 (Tct1)	0.83506154	0.993747	0.86539125	0.8606149	0.9305785	1.1816585	0.15160146	0.3876772	0.3477099	0.4769417	0.32669412	0.32669412	0.32669412	
Carbonic anhydrase III	0.91983374	0.1282455	0.2656025	0.6223813	0.4942864	0.15160146	0.3876772	0.3477099	0.4769417	0.32669412	0.32669412	0.32669412	0.32669412	
Phase-1 RCT-140	0.9851123	0.974722	1.0655718	0.597138	0.8871017	1.388949	1.3074296	1.2461753	1.2431988	1.3238004	0.8269759	0.8269759	0.8269759	
Complement component C3	2.2850378	0.79833	1.130535	0.5806245	0.6530741	0.8114418	1.2507352	0.99702895	0.82382756	0.7480794	0.7225674	0.7225674	0.7225674	
Glutathione	1.478468	1.075516	1.1884288	1.0933708	0.865504	0.9051355	0.88914623	0.9022566	0.9161133	0.8658223	1.105397	1.0517441	1.0517441	
Phase-1 RCT-173	1.310243	0.9635718	1.064288	1.0933708	0.865504	0.9051355	0.88914623	0.9022566	0.9161133	0.8658223	1.105397	1.0517441	1.0517441	
3-methyladenine DNA glycosylase	0.636024	0.8805889	0.9512033	0.9796643	1.0439043	1.0171718	1.0142903	1.1294278	1.0320228	1.005599	1.026173	1.026173	1.026173	
Periodic acid-Schiff reaction	0.6954024	0.6952011	0.6954024	0.6954024	0.6954024	0.6954024	0.6954024	0.6954024	0.6954024	0.6954024	0.6954024	0.6954024	0.6954024	
Phase-1 RCT-40	0.5463171	0.3505011	0.3040858	0.3591163	0.7779007	0.8861045	0.88033653	0.56284156	1.1559547	0.7006141	0.52759254	0.52759254	0.52759254	
Sensence marker protein-30	0.4636311	0.7175924	1.0597153	1.5628059	0.9204191	1.2373998	1.1067565	1.333024	1.333024	1.333024	1.333024	1.333024	1.333024	
Cyclin G	0.9603549	0.9701719	0.8676766	0.8841678	1.790683	1.2803319	0.5605118	0.8916139	0.8553406	1.019137	0.85337484	0.84011384	0.8910854	
Melanoma-associated antigen protein ME491	0.505478	0.7015061	0.9112767	0.9112767	0.9112767	0.9112767	0.9112767	0.9112767	0.9112767	0.9112767	0.9112767	0.9112767	0.9112767	
Phase-1 RCT-28	0.83432305	0.761133	0.912296	0.761133	0.912296	0.761133	0.912296	0.761133	0.912296	0.761133	0.912296	0.761133	0.912296	
Erfurin	0.82161784	0.823734	0.823734	0.823734	0.823734	0.823734	0.823734	0.823734	0.823734	0.823734	0.823734	0.823734	0.823734	
Alcohol dehydrogenase 1	0.7097413	0.4566776	0.4566776	0.4566776	0.4566776	0.4566776	0.4566776	0.4566776	0.4566776	0.4566776	0.4566776	0.4566776	0.4566776	
Stem cell factor	1.1941772	1.0023588	1.2398765	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	
JNK1 stress activated protein kinase	1.5847712	1.0023588	1.2398765	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	
Protein tyrosine phosphatase alpha	1.1941772	1.0023588	1.2398765	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	0.9333333	
Phase-1 RCT-55	0.6383004	0.952878	0.90971357	1.0861177	1.0255228	1.6217974	1.0778053	0.8237344	0.8237344	0.8237344	0.8237344	0.8237344	0.8237344	
Uniquitin conjugating enzyme (RAD 6 homologue)	0.7057418	0.7260371	0.874491	0.68491514	0.9285123	0.9285123	0.9285123	0.9285123	0.9285123	0.9285123	0.9285123	0.9285123	0.9285123	
DNA topoisomerase I	0.8103946	0.8787721	0.8471804	0.8787721	0.8787721	0.8787721	0.8787721	0.8787721	0.8787721	0.8787721	0.8787721	0.8787721	0.8787721	
Phase-1 RCT-280	1.0623965	0.765156	1.0654034	1.2016598	1.365142	1.5930569	1.5643395	1.6509271	1.3576284	0.7939403	0.7939403	0.7939403	0.7939403	
Superoxide dismutase Mn	0.70760435	1.0196278	1.1845397	1.1845397	1.1845397	1.1845397	1.1845397	1.1845397	1.1845397	1.1845397	1.1845397	1.1845397	1.1845397	
Beta-tubulin, class I	0.792707	0.9891345	0.8494298	1.346541	1.7366246	1.2428441	1.692326	1.556833	1.3995992	1.0850159	0.8306524	0.8306524	0.8306524	
Carbamoyl phosphate synthetase I	1.0572102	1.017746	1.2397512	1.4723117	1.091842	1.091842	1.091842	1.091842	1.091842	1.091842	1.091842	1.091842	1.091842	
Phase-1 RCT-141	0.9918877	1.3561543	1.2397512	1.4723117	1.091842	1.091842	1.091842	1.091842	1.091842	1.091842	1.091842	1.091842	1.091842	
Gamma-actin, cytoplasmic	1.770277	0.9166034	1.0546544	1.0989333	0.8559344	0.8559344	0.8559344	0.8559344	0.8559344	0.8559344	0.8559344	0.8559344	0.8559344	
Ribosomal protein L13A	0.8524656	0.9959536	1.0418123	1.0482745	1.0270985	0.88509785	1.0961754	1.1306467	0.8816714	1.0768805	0.8826702	1.0719081	1.0719081	
IBP-3	2.2408882	1.5425799	1.8548172	2.2408882	2.2408882	2.2408882	2.2408882	2.2408882	2.2408882	2.2408882	2.2408882	2.2408882	2.2408882	
Cytin	1.3841608	1.5890355	1.8828046	1.5890355	1.8828046	1.5890355	1.8828046	1.5890355	1.8828046	1.5890355	1.8828046	1.5890355	1.8828046	
Phase-1 RCT-45	1.7493815	1.3491628	1.4397356	1.3280704	0.88509785	1.0961754	1.1306467	0.8816714	1.0768805	0.8826702	1.0719081	1.0719081	1.0719081	
Oxidoreductase	1.3841608	1.5890355	1.8828046	1.5890355	1.8828046	1.5890355	1.8828046	1.5890355	1.8828046	1.5890355	1.8828046	1.5890355	1.8828046	
Protein O-mannosyltransferase 1 (Pom1)	1.7846411	1.2977692	1.294008	1.3010964	0.9495747	1.1871002	1.2142426	1.1568855	1.0857507	1.24024	1.049766	1.0857507	1.0857507	
HMG CoA reductase	1.2503028	1.159125	1.0494356	1.2275346	1.0948218	1.1873819	0.9519557	0.9557878	1.1467874	0.9814834	1.162564	0.9627674	1.162564	
Interferon related developmental regulator (FRD1 (PC4))	0.791119	1.1207484	0.900388	1.4844143	1.0364828	1.1643105	1.3699716	1.3141092	1.3780201	1.2410325	0.86151177	0.86151177	0.86151177	
Glucose-regulated protein 78	0.74562144	1.0021191	0.5381894	0.7622467	0.9015802	3.0012345	2.1655332	3.4459823	2.5553815	2.7555976	0.9638104	1.1488938	1.1488938	
3-beta-hydroxysteroid dehydrogenase (HSD3B1)	0.7089165	0.734812	0.6715015	0.708327	0.4880432	0.5953647	1.184077	1.2548198	0.9435578	0.9435578	0.9435578	0.9435578	0.9435578	
Caspase-6	1.3507843	1.0017865	1.2345713	1.2345713	1.2345713	1.2345713	1.2345713	1.2345713	1.2345713	1.2345713	1.2345713	1.2345713	1.2345713	
Phase-1 RCT-169	0.9800859	0.9506702	0.9676334	1.1544585	1.119661	1.121862	0.99716157	1.1336866	1.0945294	0.8987544	0.9054094	0.9073985	0.9073985	
Phase-1 RCT-197	1.3272723	1.028192	1.0616019	0.77224004	0.7807998	0.700376	0.70067215	0.7539919	0.7629598	0.6522568	0.9864482	1.0880928	1.0880928	

Phase-1 RCT-72	1.1775148	0.90421224	1.2450476	0.9305636	0.930736	0.871094	0.8858974	0.882441	0.82430714	1.126518	1.2165188	1.224332	1.1047316
Pyruvate kinase, muscle	1.1947062	1.2724636	1.1970702	1.2423949	1.2466319	1.1453709	1.1772618	1.0949478	1.3313003	1.0755637	1.2165188	1.224332	1.1047316
Phase-1 RCT-288	0.60621035	0.80702233	0.88196384	0.5234177	0.6628432	0.6655213	0.855497	0.8354404	0.8354404	0.8292374	0.84165895	0.84165895	0.84165895
Cytochrome P450 2C39 (allelic form 2)	1.591997	1.0650467	1.3993336	1.0677824	0.9630196	1.7695924	0.857062	0.857062	0.857062	1.034347	1.1307098	1.2045114	1.0471663
Phase-1 RCT-290	0.49004617	0.7434657	0.8618375	0.9359526	0.524011	1.496578	0.538532	0.8112095	0.6981073	0.671755	0.9157459	0.9157459	0.9157459
Phase-1 RCT-281	1.2001129	1.2739303	1.3020499	1.2698922	0.88402314	1.0943112	1.1216583	1.430765	1.2545109	1.265228	1.3935658	1.3935658	1.3935658
Phase-1 RCT-282	0.86971225	0.8001329	0.7611614	0.82287326	0.7075476	1.095326	1.1218162	1.0501728	1.0719348	1.0302028	0.9123455	0.9123455	0.9123455
Methylglutaryl-CoA reductase alpha	0.84620723	0.6543156	0.6241026	0.7391725	0.739002	0.44341367	0.8080675	0.70789705	0.7179705	0.8264293	0.8123455	0.8123455	0.8123455
Cytochrome P450 1A2	0.93343984	1.0543987	1.1541384	0.9522984	1.1901003	0.87338624	0.8827773	0.8895894	0.87069384	0.9676325	1.0492176	1.0492176	1.0492176
Phase-1 RCT-297	2.1732338	0.33642703	1.1907717	0.886803	1.1530432	0.9575562	1.2252715	1.0527552	1.0300225	1.1737897	1.1075474	1.1075474	1.1075474
Monomeric oxidase B	0.74546943	0.94531053	0.7542881	0.8398301	0.72257215	0.9575562	1.2252715	1.0527552	1.0300225	1.1737897	1.1075474	1.1075474	1.1075474
Phase-1 RCT-264	0.56432607	0.5124559	0.39244416	1.0163309	0.8361609	0.94564337	0.9151103	1.0129187	0.94513285	0.9676325	1.0492176	1.0492176	1.0492176
Phase-1 RCT-143	0.8058511	0.7225298	0.8073892	0.8073892	0.8361609	0.94564337	0.9151103	1.0129187	0.94513285	0.9676325	1.0492176	1.0492176	1.0492176
Phase-1 RCT-251	0.88072913	1.4591373	0.9098811	1.3803269	1.0982363	0.55788054	1.0108765	1.3512864	0.94145343	0.9676325	1.0492176	1.0492176	1.0492176
Phase-1 RCT-117	1.3455453	1.046237	0.9530926	1.0082563	0.55788054	1.0108765	1.3512864	0.94145343	0.9676325	1.0492176	1.0492176	1.0492176	1.0492176
Glutathione S-transferase Irb-1	1.396235	1.2356334	1.3390745	1.3390745	0.87435055	0.91475207	0.7905985	1.0326232	0.85020115	0.86045943	0.8837364	1.104683	0.938683
Phase-1 RCT-91	0.97054905	1.0449033	1.0228461	1.1423943	0.9247423	0.9745336	0.7818489	0.77345436	0.80533713	0.8415818	0.9283258	1.0478692	0.98222184
Phase-1 RCT-142	1.2303578	0.82052233	1.0806276	0.8419444	0.9247423	0.9745336	0.7818489	0.77345436	0.80533713	0.8415818	0.9283258	1.0478692	0.98222184
Phase-1 RCT-143	0.70110595	0.75925587	0.76997476	0.8943356	0.9247423	0.9745336	0.7818489	0.77345436	0.80533713	0.8415818	0.9283258	1.0478692	0.98222184
Adiponectin type II	1.0881038	1.126433	0.89349874	0.8782022	1.0739388	1.0331719	1.2870136	1.003871	0.810303	0.75436675	0.8178028	2.0683088	2.2776702
Cytidine methyltransferase	2.0210562	1.3478174	2.0850116	1.4979753	0.6308956	0.89760164	1.2700394	0.87325444	0.810303	0.75436675	0.8178028	2.0683088	2.2776702
Phase-1 RCT-281	1.122838	1.3718874	1.2755555	0.9250283	1.3470692	1.1242834	1.0890286	1.0937502	1.1479341	0.6520035	0.57951033	0.45817205	0.7349756
Ciliary neurotrophic factor	0.90789724	0.77928764	0.91721415	1.0396367	1.0263141	1.0491891	1.0396367	1.0263141	1.0491891	1.0396367	0.9493059	0.8631502	0.85235655
Gap junction membrane channel protein beta 1 (GJB1)	2.359821	1.3908073	1.6875842	1.6875842	1.065532	1.282581	0.8700335	0.84780926	0.80604184	1.1113337	1.2285775	1.2887405	0.7316972
Phase-1 RCT-58	1.2246518	1.0597479	1.788398	1.0839878	1.0834053	1.0497148	1.0106077	1.0343422	1.0486927	0.948105	1.021725	1.0173078	1.180618
Phase-1 RCT-287	0.625103	0.7039032	0.6953159	0.8298746	1.2551234	1.1886116	0.9741023	1.0218469	1.15949	0.9399977	0.87089	0.9058751	0.8755269
Relaxin-binding protein (RBP)	0.56851513	0.857296	0.54945566	0.84901655	0.890304	1.0074395	1.0857009	1.1158943	0.86804773	1.112769	0.868567	0.88451464	0.8911873
Very long-chain acyl-CoA synthetase	0.34115854	0.6247207	0.63472307	0.8943111	0.9404384	1.083078	0.840674	1.2057888	0.97204435	1.095265	0.8476405	0.7838763	0.7597529
Syndecan-1	0.9418655	0.8420527	0.82430714	0.801827	1.3892933	1.24332	1.538303	1.0526738	1.1377165	1.15095	1.1377165	1.15095	1.1377165
Phase-1 RCT-145	0.853282	1.0135607	0.90036166	0.75378555	0.6544878	0.74311954	1.208444	0.86081415	0.8253155	1.227059	0.9834878	0.9532816	1.15902
Ann	0.853282	1.0135607	0.90036166	0.75378555	0.6544878	0.74311954	1.208444	0.86081415	0.8253155	1.227059	0.9834878	0.9532816	1.15902
Phase-1 RCT-89	1.0207125	0.9893088	1.166248	1.009537	0.9408268	0.7624447	0.8321453	1.2492818	1.1325079	1.0337226	1.0781192	1.0286149	1.130042
Sarcoplasmic reticulum calcium ATPase	0.71256876	0.6843499	0.7762812	0.8570014	0.90991616	0.8878698	1.2958336	1.1325079	1.0337226	1.0781192	1.0286149	1.130042	1.130042
Alpha-2-macroglobulin, sequence 2	1.2180467	0.8704483	1.0070261	0.9389781	1.061024	1.0114563	1.068424	0.9059055	0.94965414	0.94058	0.8442035	0.92520433	0.9458191
Vascular endothelial growth factor	1.0237138	0.9620567	1.6564871	1.7677528	1.1597348	1.1716535	1.360061	1.07594	0.94566786	0.81061705	0.8241885	0.9108876	0.77764475
NADP-dependent isocitrate dehydrogenase, cytosolic	0.61160827	0.80877063	0.63405086	0.51020634	0.6778712	0.8683481	0.8888476	0.8710621	0.653668	0.6943119	0.76281413	0.653668	0.6943119
DNA binding protein inhibitor D2	1.0817314	0.78104377	0.93865476	0.8595787	0.8595787	1.0010028	0.876564	1.0010028	0.876564	1.0010028	0.876564	1.0010028	0.876564
Glutathione S-transferase Ya	1.0530637	1.2677442	0.86037326	0.4222832	0.84883924	0.64131624	0.7876847	0.7443984	1.0359303	0.69416905	0.55857475	0.7298431	0.6712715
Epoxide hydrolase	1.1238644	1.1701748	0.8414566	0.5433233	1.1430134	1.118891	0.7477358	1.2013011	1.2755243	1.0670031	1.1037778	1.08703	1.4720399
Insulin-like growth factor I	0.7911937	0.91334677	0.85788104	0.7824917	0.7874878	0.8653988	0.7182358	0.828845	0.6687334	0.74957037	0.7089221	0.7614163	0.6982282
Phase-1 RCT-136	1.3448416	1.6881445	1.0562894	1.3548581	0.9106345	0.91760706	0.8502011	0.9703936	0.828845	0.6687334	0.74957037	0.7089221	0.7614163
Phase-1 RCT-137	0.80455215	0.73697644	0.8672375	0.920638	0.9106345	0.91760706	0.8502011	0.9703936	0.828845	0.6687334	0.74957037	0.7089221	0.7614163
Phase-1 RCT-138	0.54322333	0.5685282	0.57690306	0.5672375	0.5641218	0.59084874	0.92416614	0.90715355	0.9059099	0.899637	0.85759073	0.921053	0.886788
Hepatic lipase	0.81693745	0.7680068	0.85726915	0.7852165	0.69132847	0.89132847	0.68796873	0.9879284	0.9601276	0.8714234	0.81425446	0.70147234	0.7363844
Phase-1 RCT-164	0.7228321	0.87148226	0.836979	0.558817	0.64907753	0.89132847	0.68796873	0.9879284	0.9601276	0.8714234	0.81425446	0.70147234	0.7363844
Asyl-CoA dihydrogenase, medium chain	0.8887835	0.91301054	0.8707835	0.7855108	0.6756635	0.8525088	0.8410988	1.0070214	1.0179407	1.0052828	0.9530525	0.86448463	0.9685949
Glutathione S-transferase YC2 subunit	0.6336776	1.0128014	0.7017152	0.8004047	0.9488021	0.99871787	1.0020124	1.0179407	1.0052828	0.9530525	0.86448463	0.9685949	1.028853
Carbonic dehydratase	0.8422662	1.1140355	0.87705356	0.86162037	0.8472047	0.6417254	0.8472047	0.6417254	1.210352	0.62823787	0.8176119	1.1038232	1.294785
Phase-1 RCT-166	0.75437	1.03115	0.7320453	0.73383135	1.12783	1.0346199	0.9517254	1.210352	0.62823787	0.8176119	1.1038232	1.294785	1.294785
Apolipoprotein E	1.431219	1.788877	0.7542777	1.3718111	0.7320453	0.73383135	1.12783	1.0346199	0.9517254	1.210352	0.62823787	0.8176119	1.1038232
UDP-glucuronosyltransferase	0.87581428	1.0591111	1.3681643	1.913161	0.80784626	0.7326689	0.6594876	0.5900104	0.84201546	0.81724465	0.7652184	0.8045239	0.8635826
Glutathione S-transferase P1	1.0731521	1.0253077	0.9384566	0.9385588	0.75174326	0.8182368	0.75174326	0.8182368	0.75174326	0.8182368	0.75174326	0.8182368	0.75174326
Disulfide isomerase related protein (ERp72)	0.92760223	1.1951148	0.9651211	1.8282182	0.75174326	0.8182368	0.75174326	0.8182368	0.75174326	0.8182368	0.75174326	0.8182368	0.75174326
Ribosomal protein L13	0.63407195	0.8077248	0.87655304	0.680593	0.8673674	0.8473065	0.8673674	0.8473065	0.8673674	0.8473065	0.8673674	0.8473065	0.8673674
Cenolipin	0.43668986	0.7313853	0.5128253	0.8222138	1.0964841	1.562781	1.8379296	1.6048687	1.2616533	1.6048687	1.2616533	1.6048687	1.2616533
Inter-alpha-inhibitor H4 heavy chain (Ilti4)	0.9555247	1.2088153	1.200234	1.2932212	1.0253684	1.5303115	1.6875655	1.8245592	1.780974	1.8623391	0.6974731	1.0795137	0.6408971

Table 28

Phase-1 RCT-3	0.1268445	0.93721217	0.90633926	0.84813213	0.95861023	0.84473737	0.8714945	0.9333978	0.9805091	0.8707758	0.8228816	0.8952264	0.8135329	0.30182536
3-hydroxyisovalerate dehydrogenase	0.87727195	0.85789234	0.8623675	0.86000186	0.7677092	0.7677092	1.0537587	1.0541121	1.0541121	1.0541121	1.0541121	1.0541121	1.0541121	1.0541121
Adiponitrile dehydrogenase	0.7669643	0.88236794	0.86000186	0.7677092	0.7677092	0.7677092	1.0537587	1.0541121	1.0541121	1.0541121	1.0541121	1.0541121	1.0541121	1.0541121
Carnitine acyltransferase III, sequence 2	0.54763293	0.6726895	0.4316736	0.6852242	0.9385242	0.9385242	0.9385242	0.9385242	0.9385242	0.9385242	0.9385242	0.9385242	0.9385242	0.9385242
Phase-1 RCT-10	0.61126095	0.79577166	0.73209924	0.68575305	0.68575305	0.68575305	0.68575305	0.68575305	0.68575305	0.68575305	0.68575305	0.68575305	0.68575305	0.68575305
Alpha-2-macroglobulin	0.56855489	0.93618294	0.70703239	0.56651795	1.21842	0.49510092	0.94902005	0.9397165	0.9397165	0.9397165	0.9397165	0.9397165	0.9397165	0.9397165
Dynactin-1 (D100)	0.7666019	0.93182367	0.6860945	0.86287436	0.5732763	0.82066375	0.95486273	0.95486273	0.95486273	0.95486273	0.95486273	0.95486273	0.95486273	0.95486273
Lysyl oxidase	0.80013366	0.77202064	0.1636955	0.7323569	0.5955314	0.88215723	0.8851691	0.8851691	0.8851691	0.8851691	0.8851691	0.8851691	0.8851691	0.8851691
Phase-1 RCT-252	0.65217525	0.9607236	1.0336118	1.0054592	0.8825152	0.78860636	0.78860636	0.78860636	0.78860636	0.78860636	0.78860636	0.78860636	0.78860636	0.78860636
Phase-1 RCT-278	1.0477169	0.9482981	0.8682091	0.8678001	1.11493	1.02237874	1.02237874	1.02237874	1.02237874	1.02237874	1.02237874	1.02237874	1.02237874	1.02237874
Phase-1 RCT-25	0.90614176	0.9903036	0.96304795	0.9722079	1.0149332	1.07888061	0.92388623	0.92388623	0.92388623	0.92388623	0.92388623	0.92388623	0.92388623	0.92388623
Cytochrome P450 2C11	0.83428326	1.1640686	0.9897595	0.96179054	0.9371442	0.92104465	0.9833866	0.9833866	0.9833866	0.9833866	0.9833866	0.9833866	0.9833866	0.9833866
Phase-1 RCT-202	0.7601524	0.8742003	0.6575943	0.654261	0.78337675	0.92104465	0.9833866	0.9833866	0.9833866	0.9833866	0.9833866	0.9833866	0.9833866	0.9833866
Complement factor I (CFI)	1.0787787	1.1503438	1.2173884	1.069454	0.9514204	0.8905561	0.9833866	0.9833866	0.9833866	0.9833866	0.9833866	0.9833866	0.9833866	0.9833866
Activating cell nuclear antigen gene	1.4524212	1.4770133	1.4586717	1.0788461	0.97514606	1.0197465	1.0197465	1.0197465	1.0197465	1.0197465	1.0197465	1.0197465	1.0197465	1.0197465
Activating transcription factor 3	0.95336646	0.91752399	0.88319584	0.9238865	1.0650291	1.2521734	1.1561521	0.9622807	0.9622807	0.9622807	0.9622807	0.9622807	0.9622807	0.9622807
Focal adhesion kinase (p125FAK)	0.95100304	0.8534468	0.7681814	0.8071051	0.76520335	0.9160388	0.9595451	0.9595451	0.9595451	0.9595451	0.9595451	0.9595451	0.9595451	0.9595451
Phase-1 RCT-288	1.130921	0.84119919	1.0300833	0.94072455	1.1278849	1.0492204	0.7861942	0.9240862	0.9240862	0.9240862	0.9240862	0.9240862	0.9240862	0.9240862
Iron-responsive element-binding protein	0.64820766	0.81654416	0.8242325	0.86622153	0.8992735	0.9376336	0.9595451	0.9595451	0.9595451	0.9595451	0.9595451	0.9595451	0.9595451	0.9595451
MHC class II antigen RT1.A10 alpha-chain	1.6783357	1.6321218	1.6973975	2.0939815	1.0004845	0.84492105	0.9595451	0.9595451	0.9595451	0.9595451	0.9595451	0.9595451	0.9595451	0.9595451
Aryl sulfotransferase	0.83923234	0.9137955	0.7114398	0.7995057	0.6590052	1.1532148	1.5598184	1.706767	1.4339807	0.98249147	0.98249147	0.98249147	0.98249147	0.98249147
Phase-1 RCT-171	0.8067998	0.9533633	0.8647894	0.9185405	1.002024	0.923028	0.84345824	0.84345824	0.84345824	0.84345824	0.84345824	0.84345824	0.84345824	0.84345824
Phase-1 RCT-83	1.0468054	0.8369853	1	0.7926303	0.9270066	0.7373962	0.6536524	0.6536524	0.6536524	0.6536524	0.6536524	0.6536524	0.6536524	0.6536524
Phase-1 RCT-270	0.8152668	0.6639934	0.87411785	0.83517785	0.510878	0.47373962	0.68372024	0.714161	0.5933887	0.73251253	0.7286716	0.70363766	0.6138311	0.70363766
Colony-stimulating factor-1	0.743342	0.77460046	0.8303106	0.9024715	0.915537	1.0217715	1.181754	1.260765	1.1515595	1.2415386	1.057184	1.057184	1.057184	1.057184
N-cadherin	0.8689185	0.7532856	0.9550684	0.77715974	0.98045796	1.0042806	0.9181745	0.9859315	0.9859315	0.9859315	0.9859315	0.9859315	0.9859315	0.9859315
Phase-1 RCT-62	0.7508113	1.0654035	1.0275941	0.95861834	0.99486165	0.8814468	0.8859531	0.8859531	0.8859531	0.8859531	0.8859531	0.8859531	0.8859531	0.8859531
Phase-1 RCT-22	0.9673987	0.980063	1.1497993	0.9980311	1.0164485	1.1485357	0.9392334	0.9688186	0.9688186	0.9688186	0.9688186	0.9688186	0.9688186	0.9688186
AT-3	1.039477	0.6394163	0.8521118	0.9398897	1.0731662	1.1536291	0.9614071	0.8774132	0.95661874	0.95661874	0.95661874	0.95661874	0.95661874	0.95661874
Phase-1 RCT-18	1.0864401	0.90228915	0.82733834	0.87719843	0.95820304	0.8740393	0.9614071	0.8774132	0.95661874	0.95661874	0.95661874	0.95661874	0.95661874	0.95661874
Phase-1 RCT-123	1.1495667	0.9223173	0.8331619	0.8465045	1.0332271	0.9277994	0.94607395	0.94607395	0.94607395	0.94607395	0.94607395	0.94607395	0.94607395	0.94607395
Phase-1 RCT-168	0.68274814	0.7107297	0.7011626	1.083373	1.1778487	0.82887036	1.0594045	0.9195417	0.82887036	0.82887036	0.82887036	0.82887036	0.82887036	0.82887036
Equilibrative nucleoside/thiosine-sensitive nucleoside transporter	0.6951972	0.5217529	0.5913403	0.5535855	0.97085476	0.6561222	0.7898862	0.8567211	0.6591783	0.79956244	0.720553	0.6959873	0.61923353	0.6959873
Glucose transporter 2	0.755858	0.76709704	1.0223659	0.97016885	0.6724041	0.6591942	0.68899345	1.1561872	0.70086914	0.713782	1.0968609	1.2655461	1.5068078	1.4108587
Multidrug resistant protein-2	1.026035	1.7107286	1.489036	1.3227829	1.1679947	0.6346262	1.0471237	1.0567498	1.0852782	1.0852782	1.0852782	1.0852782	1.0852782	1.0852782
Multidrug resistant protein-1	1.0497118	1.9784491	1.586537	1.49401	1.3891006	0.5768586	1.0457373	1.0503116	1.0937849	1.0586884	2.042959	2.4574535	2.7367356	1.7828865
Phosphatidylmethanolamine-binding protein	1.0515064	0.9155907	1.213156	1.2360755	0.75814766	0.4455338	0.80066186	0.9000203	0.88271683	0.8445206	0.9587634	1.0148281	1.0191485	1.068884
Phase-1 RCT-180	1.123357	0.7970683	1.0237936	1.211738	0.99406593	1.496533	1.382808	1.2468681	1.2468681	1.2468681	1.2468681	1.2468681	1.2468681	1.2468681
Integrin beta-4	1.2509807	0.892432	1.039629	1.1314088	1.1953608	1.0405123	1.0321196	1.1962961	1.118465	1.1070119	1.2516699	1.400159	1.3547766	1.0783644
NADPH oxidase P450 oxidoreductase	3.3595451	1.942694	1.3977828	3.4959538	1.959765	0.957632	1.069518	1.033474	0.9055104	0.653131	2.7350395	2.435663	4.1053333	2.0946812
Walt	1.3282045	1.048506	0.8806656	0.5727668	0.96591285	0.9102883	0.8897169	1.1004826	0.9654813	1.330476	1.2243745	1.8579956	1.3075191	1.3075191
Endogenous retroviral sequences, 5 and 3 LTR	1.3085425	0.97277814	1.0645174	1.0461947	0.9650113	0.93731905	1.1222018	0.835232	0.7546667	0.7735208	0.7735208	0.9141151	0.943519	0.943519
Phase-1 RCT-53	0.93537018	0.7739498	0.8317984	0.9342618	0.63276	1.054787	1.0300331	0.9974013	0.9974013	0.9974013	0.9974013	0.9974013	0.9974013	0.9974013
Phase-1 RCT-240	1.2004557	1.2846597	1.4810971	1.3900937	1.0605668	1.1692189	1.216495	0.9932774	0.9932774	0.9932774	0.9932774	0.9932774	0.9932774	0.9932774
Osteopontin	0.6571592	0.5288465	0.67820346	0.71273637	0.5927729	0.8644067	0.87114645	1.1498884	1.0474768	1.007119	0.96889454	0.8119721	0.7676476	1.1383903
Organic anion transporting polypeptide 1	1.025374	1.5058663	1.2550086	1.225173	1.0356827	0.76561683	0.8892907	0.9897592	0.9897592	0.9897592	0.9897592	0.9897592	0.9897592	0.9897592
Phase-1 RCT-241	1.0143725	0.81884503	1.059889	1.1529881	1.3589491	2.2599277	2.0038412	1.1272569	1.6381907	1.6106968	1.6686199	1.030017	1.0886773	1.1515287
Tissue factor pathway inhibitor	1.2595673	0.95395944	1.4484499	1.0679413	1.0806409	1.5103675	1.2339768	1.1593302	1.2263834	1.3892181	0.78486526	0.9277719	0.9438515	0.7705697
Cyclin-dependent kinase 4 inhibitor P27kip1 (alternate clone)	1.7657299	1.7289659	2.1364546	1.800828	1.233767	2.13001	1.6149721	0.9454026	1.0101074	1.0946814	1.0490046	1.1197685	1.2281674	1.2281674
Phospholipase D	1.7062362	1.0725322	1.2940311	1.1765895	0.93321734	0.76310754	0.8583866	0.8463501	0.7983808	0.7318473	1.2833544	1.3005331	1.2691875	1.2283559
Phase-1 RCT-39	0.87131363	1.5656507	1.1091454	1.1291393	1.9801854	1.2102024	1.2853885	1.1447254	1.3383784	1.1923186	1.0417286	1.2696255	1.368349	1.2380121
Phase-1 RCT-259	1.0042186	0.9488062	1.0688889	1.0101459	0.9500918	1.1225255	1.0734761	1.1045997	1.165158	1.0756337	0.9240787	0.83133868	0.89181435	1.238892
Phase-1 RCT-113	1.1644368	1.3232756	1.6508007	1.1440202	1.245062	1.2858409	1.167484	1.3354007	1.2528894	1.159476	1.053916	1.0673134	1.3823506	1.3823506
Adenosine nucleoside translocator 1	0.5889579	0.57281685	0.70429355	0.761854	0.86754554	0.761854	0.86754554	0.94347177	0.94347177	0.94347177	0.94347177	0.94347177	0.94347177	0.94347177
Alpha-1 acid glycoprotein	0.8250056	0.9518963	1.2047158	1.908651	1.552679	0.553538	0.6340537	0.799107	0.799107	0.799107	0.799107	0.799107	0.799107	0.799107
MHC class II antigen RT1.B-1 beta-chain	2.1263456	1.5121081	1.428763	0.9165113	0.8881725	0.8895427	0.7447278	0.7447278	0.7447278	0.7447278	0.7447278	0.7447278	0.7447278	0.7447278

Organic cation transporter 3	0.7208233	0.8243564	0.7943435	0.9578819	1.1748866	1.6459758	1.4757458	1.4128559	1.5304619	1.7341665	1.3451166	1.3317274	1.2631573	1.3244962
Hypoxia-inducible factor 1 alpha	1.2201945	1.1500506	1.2511733	1.0486638	0.9428139	0.77546173	0.8168813	0.823509	0.898751	0.73144764	1.0378819	1.1773566	1.1931272	1.0973909
Phase-1 RCT-43	1.0882168	1.2058888	1.3887359	1.2228634	0.97586286	1.1409508	1.1228893	1.0446097	1.0196089	1.041515	0.86000437	0.7830855	0.7830231	0.85957834
Phase-1 RCT-45	0.8314821	0.968342	0.8117841	0.86380254	1.0382061	1.0250335	1.0343918	1.0389721	1.0467553	0.9834937	0.93058943	0.85581048	0.8218943	0.85478508
Malate dehydrogenase, cytosolic	0.7390497	0.73390303	0.88538267	0.92595056	0.89560973	1.1600867	1.1168487	1.2307861	1.2137657	0.8853777	1.1612656	1.042438	1.2251729	1.3271389
VL30 element	1.135816	0.94551504	0.872499	0.53196543	1.3953341	1.592947	1.6238729	1.0354168	1.0093215	1.2074711	0.7172008	0.72859158	0.69188535	0.3948811
Phase-1 RCT-183	0.5732539	0.7636548	0.5251101	0.49207868	0.81872135	0.9022102	0.9003329	0.94767978	0.71640134	0.9494824	0.8416882	0.8322281	0.803486	0.897635
Alpha-fetoprotein	0.887649	0.8556268	1.0167274	0.83752068	1.0067284	1.2438871	1.201876	1.0312313	1.0504045	1.2694449	1.2253153	1.0714608	1.1832265	1.159835
Calgranulin B	0.42107534	0.50407535	0.3761416	0.5344889	0.8078522	0.7390685	0.84524316	0.93071175	0.56628845	0.896027	0.89523506	0.89065904	0.82887628	1
Tissue plasminogen activator	0.8884152	0.86823666	0.88709415	0.7728518	1.0883877	0.86677744	0.8768021	0.8657725	0.8724279	0.89607865	1.0513722	0.928174	0.9159651	0.82406726
Phase-1 RCT-195	0.97264063	1.0924007	1.5132593	1.0161592	0.7426877	0.96179	0.9685146	0.86744307	0.86470817	0.8495507	0.9131297	1.0535952	1.059408	1.0381951
Liver fatty acid binding protein	0.55984936	0.9242477	0.5606498	0.8045448	1.062532	1.308182	0.867888	1.2702865	0.8529489	0.862157	0.7821718	0.7718065	0.7902153	0.84748936
Alfa-1 microglobulin/albumin precursor (Ambp)	0.63967845	0.6405042	0.80775137	0.646888	0.655077	1.0264595	0.9410932	1.1306525	0.7746034	0.9811368	0.854287	0.854287	0.854287	0.854287
Phase-1 RCT-224	1.3707818	1.0055394	1.2351284	1.0581563	1.0209637	0.8514874	0.8664679	0.94743204	0.9182892	0.800908	1.0558143	1.072734	1.0960242	0.88294885
Phase-1 RCT-158	0.81568914	0.7217145	0.8855246	0.86885348	1.1531224	1.3932132	1.1843359	1.1823381	1.1803001	1.260434	1.0562428	1.1956337	1.1962587	0.94855344
Phase-1 RCT-221	1.28708	1.164855	1.1221832	0.9873455	1.052962	1.0827336	0.9579394	0.9354214	1.0323272	0.93170977	1.1627743	1.0703464	1.1401699	1.2076435
Organic anion transporter 3	1.0788629	1.1239622	1.28846	1.2511262	1.097255	1.3096378	1.3027854	1.0526004	1.0801437	1.1534904	1.1095942	1.0539336	1.0784458	1.0041517
Phase-1 RCT-225	0.9800405	1.0134358	0.95064414	0.96038953	1.0633953	1.1971686	1.1878011	1.10073	1.1585336	1.192555	1.2738113	1.207624	1.3978831	1.046817
Matrix metalloproteinase-1	1.1280538	1.4711441	1.2041142	1.2840278	0.988952	0.7287803	0.8861187	1.0645063	0.9221038	1.0440083	1.2247422	1.2352657	1.5614807	1.1394211
Urinary protein 2 precursor	1.5582157	2.2537587	1.7790292	1.8657224	0.83760405	0.95339704	0.9889538	1.0782433	0.85868344	1.1006273	1.129776	1.0453893	0.9434817	0.9881403
Phase-1 RCT-212	0.62573105	0.55475134	0.5062885	0.500117	0.76718314	0.88749768	0.8635039	0.97358533	0.7842182	0.8082498	0.8220278	0.47835314	0.540057	0.44662967
	1.0098642	0.7554106	0.84542197	0.9046709	1.024717	1.0452812	1.0314587	0.9693106	0.9231517	0.96034765	0.95942636	0.96935904	0.8363291	1.0638953

(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 18).

(2) Compound and dose abbreviations as in Table 1.

(3) Individual animal number

(4) Liver inflammation classification for compound-dose group at 72 h: yes=recr, necrosis observed; yes-both, necrosis with inflammation observed; no, no histopathology observed

(5) Predictive gene (as in Table 18 and as included in Table 25)

Table 28. Expression Data for 6 Hour Timepoint (1)															
Compound-Dose (2)	DEX 30	DEX 30	DEX 30	DEX 30	DEX 30	DEX 30	DEX 30	DEX 30	DEX 30	DEX 30	DEX 30	DEX 30	DEX 30	DEX 30	DEX 30
Animal Number (3)	1352	1353	1354	1355	1356	1357	1358	1359	1360	1361	1362	1363	1364	1365	1366
Liver Toxicity Information Classification (4)															
Gene Name (5)															
Insulin-like growth factor binding protein 1	0.8751487	1.2947624	0.7400774	0.6369238	0.59288015	0.8607441	0.60763064	0.5685986	1.3891479	1.6660104	1.715455	1.4125255	1.3097118	1.5472244	1.1
Gad65	1.3884002	1.4503817	1.3836128	1.2750768	1.2750768	1.2750768	1.2750768	1.2750768	1.2750768	1.2750768	1.2750768	1.2750768	1.2750768	1.2750768	1.2750768
C-myc	1.7051003	1.7071655	1.5671894	1.5671894	1.5671894	1.5671894	1.5671894	1.5671894	1.5671894	1.5671894	1.5671894	1.5671894	1.5671894	1.5671894	1.5671894
NIPK	0.8851137	0.5622983	1.0030354	0.9015542	0.769235	1.5622269	1.074258	1.074258	1.074258	1.074258	1.074258	1.074258	1.074258	1.074258	1.074258
Calpactin L, sequence 2	0.0639244	1.0744483	1.065684	0.9270227	0.59288015	1.2750768	1.2750768	1.2750768	1.2750768	1.2750768	1.2750768	1.2750768	1.2750768	1.2750768	1.2750768
Heme oxygenase	0.8520505	1.084782	1.01107	0.926813	0.769235	1.5622269	1.074258	1.074258	1.074258	1.074258	1.074258	1.074258	1.074258	1.074258	1.074258
Phase-1 RCT-109	1.5420353	1.404648	0.7619173	0.6751973	0.5765843	0.8748885	0.8748885	0.8748885	0.8748885	0.8748885	0.8748885	0.8748885	0.8748885	0.8748885	0.8748885
Phase-1 RCT-111	1.149809	1.407714	0.73543173	0.7510429	0.8368436	0.8710827	0.8613457	0.8613457	0.8613457	0.8613457	0.8613457	0.8613457	0.8613457	0.8613457	0.8613457
Argininosuccinate lyase	1.763374	1.046518	1.252221	0.8894561	0.7537765	0.87137463	0.7763441	0.7763441	0.7763441	0.7763441	0.7763441	0.7763441	0.7763441	0.7763441	0.7763441
DNA polymerase beta	1.032096	1.120814	0.9568884	0.7997015	0.8705377	0.94870459	0.9065943	0.9065943	0.9065943	0.9065943	0.9065943	0.9065943	0.9065943	0.9065943	0.9065943
Phase-1 RCT-103	1.1501688	1.1436805	0.7840663	0.7997015	0.8705377	0.94870459	0.9065943	0.9065943	0.9065943	0.9065943	0.9065943	0.9065943	0.9065943	0.9065943	0.9065943
Ribosomal protein S9	1.2275797	1.3849212	1.526465	1.1971703	1.1685966	1.1677791	0.91245663	1.0365625	1.2665805	1.176901	1.2665347	1.3761883	1.3915942	1.5294949	1.5294949
Phase-1 RCT-114	1.5968797	1.6355588	1.1180932	1.0614103	0.9947282	1.0585183	1.0367293	1.0367293	1.0367293	1.0367293	1.0367293	1.0367293	1.0367293	1.0367293	1.0367293
Phase-1 RCT-15	1.3337117	1.019709	1.7784156	1.8025532	1.7832677	6.797893	2.6882167	2.6882167	2.6882167	2.6882167	2.6882167	2.6882167	2.6882167	2.6882167	2.6882167
Macrophage inflammatory protein 2 alpha	1.3485932	1.3362571	1.0865799	1.2007248	1.3977655	0.8616945	0.8197633	1.0376583	1.6221519	4.3107723	1.1607493	0.7666563	1.068368	1.068368	1.068368
NGF-inducible anti-proliferative putative secreted protein (PC3)	0.9175451	0.8719331	0.8334384	0.80384214	0.6328296	0.63848784	0.8026792	0.93659197	0.7053912	0.6962234	2.0236828	0.9521855	1.058517	1.058517	1.058517
Phase-1 RCT-191	1.454122	1.2894124	1.137793	1.6278744	1.2532948	0.76031184	0.9026806	1.0162352	0.797785	1.003651	0.33611062	0.3694592	0.5441433	0.795416	0.795416
Cyclin D3	1.1924601	1.4951497	1.933316	1.5168186	1.5415518	2.4067472	2.0710123	2.8462287	0.90285915	0.97119766	0.8177667	1.2640256	0.9265981	0.8957874	0.8957874
Phase-1 RCT-108	0.77841618	1.208003	1.3181586	0.858685	0.87417597	0.54273045	0.8173904	1.2816285	1.2848324	1.1742458	1.1828972	0.76963973	0.91458595	1.116536	1.116536
Phase-1 RCT-56	1.0483928	1.0584991	0.84762245	0.90840225	0.87649253	0.9480463	1.0363697	0.9531414	1.280776	1.2053859	0.7042909	0.9598897	1.2467445	0.96886715	0.96886715
Phase-1 RCT-76	0.5902886	0.45170256	0.7130693	0.76303104	0.84069184	0.15024862	0.75720854	1.0257109	1.290776	1.2053859	0.7042909	0.9598897	1.2467445	0.96886715	0.96886715
Phase-1 RCT-102	1.0673394	1.0131379	1.019913	0.98439655	0.3761466	1.192137	1.1957301	1.0720908	0.9142276	0.9142276	0.9142276	0.9142276	0.9142276	0.9142276	0.9142276
Acad-CoA carboxylase	1.0919452	1.1677774	1.041591	0.95979747	1.0282824	1.2019683	1.039449	0.9531414	0.914966	0.914966	0.914966	0.914966	0.914966	0.914966	0.914966
Phase-1 RCT-85	1.1021587	1.084512	0.8054625	0.8302681	0.868904	0.868904	0.868904	0.868904	0.868904	0.868904	0.868904	0.868904	0.868904	0.868904	0.868904
Cyclatin C	0.94155806	0.9801474	0.82137436	0.90759575	0.9372247	1.255554	0.9717424	1.255554	1.255554	1.255554	1.255554	1.255554	1.255554	1.255554	1.255554
Phase-1 RCT-49	1.0840091	0.9228432	0.8975433	0.85705155	0.7697048	0.7697048	0.7697048	0.7697048	0.7697048	0.7697048	0.7697048	0.7697048	0.7697048	0.7697048	0.7697048
Phase-1 RCT-9	1.2032421	1.1805927	0.6426652	1.0212878	1.1639798	1.1474477	0.9952324	0.92143085	1.3279676	1.2906667	1.6161234	0.9257932	0.8343394	1.23731	1.23731
Gad65	1.7446985	1.8658012	1.4027362	1.4027362	1.4027362	1.4027362	1.4027362	1.4027362	1.4027362	1.4027362	1.4027362	1.4027362	1.4027362	1.4027362	1.4027362
Phase-1 RCT-166	1.0741981	1.071751	0.8205444	0.8730707	0.904857	1.0319602	1.0075681	1.3279676	1.3279676	1.3279676	1.3279676	1.3279676	1.3279676	1.3279676	1.3279676
Collin	0.91550475	0.890203	1.0961393	0.93063455	0.92567456	0.7488946	1.6273024	1.3919214	1.3919214	1.3919214	1.3919214	1.3919214	1.3919214	1.3919214	1.3919214
Macrophage inflammatory protein-1 alpha	0.8836667	0.8191499	1.0961393	0.93063455	0.92567456	0.7488946	1.6273024	1.3919214	1.3919214	1.3919214	1.3919214	1.3919214	1.3919214	1.3919214	1.3919214
Zinc finger protein	1.1670322	1.2244252	1.3517604	1.7081254	1.3578747	1.1855714	1.1152395	1.0913936	1.4520001	1.302664	0.8692507	1.0516834	0.97357243	0.81687153	0.81687153
Phase-1 RCT-73	0.9140932	0.7835153	1.017046	1.0959337	0.84063955	1.1405156	1.0943891	1.184988	0.89056945	0.8452299	1.0194948	0.83622897	0.84816127	1.042784	1.042784
Phase-1 RCT-60	0.8550305	0.83465	1.010803	1.1397597	1.2475307	1.691877	1.1430065	1.184988	0.89056945	0.8452299	1.0194948	0.83622897	0.84816127	1.042784	1.042784
Phase-1 RCT-127	1.0126511	1.4310333	0.91386153	0.9992308	1.0646103	1.0646103	1.0646103	1.0646103	1.0646103	1.0646103	1.0646103	1.0646103	1.0646103	1.0646103	1.0646103
Glutamine synthetase	0.3547027	0.6716238	1.2150382	1.1215144	1.2606493	1.0761752	1.1940054	1.0880304	1.2870769	0.8943217	0.8401021	0.8314883	0.7083351	1.3803948	1.3803948
Cb-binding protein	1.4221622	1.2410867	0.9856205	1.1220657	1.406945	1.194212	1.0453906	1.0880304	1.2870769	0.8943217	0.8401021	0.8314883	0.7083351	1.3803948	1.3803948
Phase-1 RCT-242	1.3076531	1.1411738	1.3499454	1.3055207	1.1657332	1.2933307	1.1769089	1.1698517	1.698517	1.551512	1.0120801	1.2281874	0.9384159	1.1250713	1.1250713
Phase-1 RCT-60	1.069449	1.1323607	1.1368872	1.1186382	1.2151353	1.3581154	0.9817641	1.0226991	1.0226991	1.0226991	1.0226991	1.0226991	1.0226991	1.0226991	1.0226991
Elongation factor-1 alpha	1.2503636	1.512165	1.0167036	0.8394476	0.8065949	1.3058179	0.9817641	1.0226991	1.0226991	1.0226991	1.0226991	1.0226991	1.0226991	1.0226991	1.0226991
Insulin-like growth factor binding protein 5	1.5161402	1.3478214	1.7638299	2.32741	2.302147	1.0173962	0.7639287	0.6313107	0.7821839	1.3349786	1.171653	1.0739478	0.79095435	0.5798268	0.5798268
Phase-1 RCT-59	1.2076896	1.2177812	0.96898407	1.0140747	1.0173962	0.7639287	0.6313107	0.7821839	1.3349786	1.171653	1.0739478	0.79095435	0.5798268	0.5798268	0.5798268
Phase-1 RCT-78	1.2483572	2.4123405	0.7140174	0.7465456	0.81730556	0.7639287	0.6313107	0.7821839	1.3349786	1.171653	1.0739478	0.79095435	0.5798268	0.5798268	0.5798268
Feritin Hcrtin	0.9833982	1.0881922	0.7006294	0.7482266	0.76406014	1.0190778	0.70266336	0.7172857	0.7172857	0.7172857	0.7172857	0.7172857	0.7172857	0.7172857	0.7172857
Phase-1 RCT-112	0.8414037	0.62555896	1.09492	0.139405	1.3519524	1.065252	1.2881054	1.0887587	1.3547277	1.344333	2.141483	1.209056	1.227542	1.5211915	1.5211915
Phase-1 RCT-214	1.1149311	1.0278114	0.744524	0.69240084	0.6882396	0.6882396	0.6882396	0.6882396	0.6882396	0.6882396	0.6882396	0.6882396	0.6882396	0.6882396	0.6882396
Phase-1 RCT-214	0.6044087	0.7577235	1.521052	1.027052	0.8405728	0.8405728	0.8405728	0.8405728	0.8405728	0.8405728	0.8405728	0.8405728	0.8405728	0.8405728	0.8405728
Phase-1 RCT-214	1.0771238	0.8911145	0.7553053	0.7553053	0.7553053	0.7553053	0.7553053	0.7553053	0.7553053	0.7553053	0.7553053	0.7553053	0.7553053	0.7553053	0.7553053
Thymidylate synthase	0.76787534	1.2168704	0.4629594	0.72340873	0.809557	0.7369975	1.3578172	1.0768781	1.0768781	1.0768781	1.0768781	1.0768781	1.0768781	1.0768781	1.0768781
Phase-1 RCT-13	0.74633014	1.107617	1.1195681	0.8294984	1.1655861	1.12871	0.96596223	0.7437973	1.2124983	1.4905071	0.9943213	1.2076002	0.98652	1.038656	1.038656
Nucleosome assembly protein	0.88812766	0.8076834	1.2069361	0.73740873	0.809557	0.7369975	1.3578172	1.0768781	1.0768781	1.0768781	1.0768781	1.0768781	1.0768781	1.0768781	1.0768781
Cholesterol 7-alpha-hydroxylase (P450 VII)	0.7120707	0.8076834	1.2069361	0.73740873	0.809557	0.7369									

Phase-1 RCT-32	0.9701713	1.5706564	0.89251566	0.7103382	0.6750878	0.89305663	1.5161053	0.7473574	1.904954	0.946959	1.220338	0.9509711	1.0514894	1.0333784
Proteinase assembly factor 1	1.206423	1.1778784	1.2056303	1.2694771	1.7069978	1.6956978	1.0542685	1.0590046	1.0590046	1.0590046	1.0590046	1.0590046	1.0590046	1.0590046
B-complex DNA glycosylase	0.8989094	1.1627195	1.1379384	1.1366916	1.0008852	1.0008852	0.8767876	0.8767876	0.8767876	0.8767876	0.8767876	0.8767876	0.8767876	0.8767876
Phase-1 RCT-42	1.045203	0.9695997	0.7907658	0.8293001	0.8425973	0.8702699	0.92964274	0.85394244	0.85394244	0.85394244	0.85394244	0.85394244	0.85394244	0.85394244
Matrix F6	0.752205	0.85271394	0.9580895	0.9630423	0.91058186	0.9786577	0.8756477	0.8756477	0.8756477	0.8756477	0.8756477	0.8756477	0.8756477	0.8756477
Phase-1 RCT-184	0.91212668	0.9452884	0.865827	1.0562302	1.0564773	1.4435261	1.149236	1.060707	1.060707	1.060707	1.060707	1.060707	1.060707	1.060707
Phase-1 RCT-168	0.7539833	0.7602394	0.9078476	0.8521743	0.90003264	1.2320791	1.149236	1.060707	1.060707	1.060707	1.060707	1.060707	1.060707	1.060707
Phase-1 RCT-119	0.7539833	0.7602394	0.9078476	0.8521743	0.90003264	1.2320791	1.149236	1.060707	1.060707	1.060707	1.060707	1.060707	1.060707	1.060707
Carbonic anhydrase II	0.7539833	0.7602394	0.9078476	0.8521743	0.90003264	1.2320791	1.149236	1.060707	1.060707	1.060707	1.060707	1.060707	1.060707	1.060707
Tyrosinase	0.7539833	0.7602394	0.9078476	0.8521743	0.90003264	1.2320791	1.149236	1.060707	1.060707	1.060707	1.060707	1.060707	1.060707	1.060707
Phase-1 RCT-71	1.3540204	1.5232381	0.84093176	1.2861114	1.1873051	1.2278436	0.8521743	0.90003264	1.2320791	1.149236	1.060707	1.060707	1.060707	1.060707
Phase-1 RCT-179	1.3540204	1.5232381	0.84093176	1.2861114	1.1873051	1.2278436	0.8521743	0.90003264	1.2320791	1.149236	1.060707	1.060707	1.060707	1.060707
Phase-1 RCT-167	0.9207918	0.9120623	0.9433168	0.9560728	1.0240241	0.8750794	0.8750794	0.8750794	0.8750794	0.8750794	0.8750794	0.8750794	0.8750794	0.8750794
Phase-1 RCT-144	1.0892406	1.091422	0.9768604	0.967289	0.8630512	0.9651814	0.9651814	0.9651814	0.9651814	0.9651814	0.9651814	0.9651814	0.9651814	0.9651814
Phase-1 RCT-225	1.4481487	1.5479441	0.9590221	0.92780701	0.8653776	1.1983722	1.065476	0.897225	1.176232	1.532369	0.906357	1.609847	1.8018848	1.3303572
Cytochrome P450 2E1	1.0769101	1.4560773	0.9790221	0.92780701	0.8653776	1.1983722	1.065476	0.897225	1.176232	1.532369	0.906357	1.609847	1.8018848	1.3303572
Thymidine-1 (T1)	0.8518778	0.6009029	0.7488289	0.7601885	0.6708374	0.6749523	0.5117113	0.4750684	0.6749523	0.6749523	0.6749523	0.6749523	0.6749523	0.6749523
Carbonic anhydrase II	0.5366234	0.33320174	0.5133709	1.4482896	1.4290621	4.6750737	0.5117113	0.4750684	0.6749523	0.6749523	0.6749523	0.6749523	0.6749523	0.6749523
Phase-1 RCT-140	1.945231	1.4673231	1.4894981	1.1391897	1.2018342	1.2859928	0.7264333	1.1288985	1.0261666	1.036251	0.792659	0.9216905	0.8912673	0.7964853
Complement component C3	0.7090959	0.8558855	0.75235176	0.5486928	0.6565954	0.6202878	0.7264333	1.1288985	1.0261666	1.036251	0.792659	0.9216905	0.8912673	0.7964853
Glucokinase	0.96712823	0.8520968	1.1187791	1.3933642	1.1708927	1.098628	0.766411	0.66356205	0.5500085	1.381158	0.9357483	1.6502264	0.8762431	1.3000246
3-methyladenine DNA glycosylase	1.2513576	1.0719923	0.8666234	0.8189426	1.2344682	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398
Protonal multifunctional enzyme type II	1.0277601	1.029624	0.9949061	1.352535	1.2344682	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398
Phase-1 RCT-40	0.7212444	0.8075842	0.9843345	0.994935	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398	1.3963398
Senescence marker protein-30	0.40139946	0.3287874	0.89286454	0.89429143	0.73067	0.9234164	0.5960365	0.54533803	0.6757381	0.7516438	0.68721086	1.26754	1.0423954	1.3018848
Cytin G	1.9774908	2.1332314	1.6856765	1.2970331	1.1660766	1.371335	0.87576243	0.9011706	2.826672	4.884555	0.820775	1.517494	2.062153	1.529762
Melanoma-associated antigen M5A9	0.39017606	0.5500516	0.8091192	1.172531	1.068958	1.172531	1.068958	1.172531	1.068958	1.172531	1.068958	1.172531	1.068958	1.172531
Enrith	0.8453553	0.87900748	0.9607293	1.172531	1.068958	1.172531	1.068958	1.172531	1.068958	1.172531	1.068958	1.172531	1.068958	1.172531
Phase-1 RCT-28	1.02116931	1.075294	1.172531	1.068958	1.172531	1.068958	1.172531	1.068958	1.172531	1.068958	1.172531	1.068958	1.172531	1.068958
Alcohol dehydrogenase 1	0.5445715	0.4085513	0.5304665	0.7223415	0.8241021	0.58484368	0.6607523	0.6011826	0.8575459	0.43094437	1.8031058	1.1797663	0.9541371	0.7610094
Stem cell factor	1.2655057	1.4046197	0.8057645	0.8976683	0.8413319	0.7837038	0.5547287	0.713538	0.7460016	0.9738677	1.1671144	0.97040474	1.1797663	0.9541371
Protein kinase protein kinase	0.6972194	0.8057645	0.8976683	0.8413319	0.7837038	0.5547287	0.713538	0.7460016	0.9738677	1.1671144	0.97040474	1.1797663	0.9541371	0.7610094
UNK1 stress activated protein kinase	2.097427	2.292475	0.8253163	1.2562809	0.948884	1.1010554	0.91875905	0.7389059	0.7389059	0.7389059	0.7389059	0.7389059	0.7389059	0.7389059
Phase-1 RCT-280	1.3621775	1.5021722	0.85152185	0.7937336	0.52033683	0.8689076	0.6483044	1.1988571	0.181213	1.1866564	1.504379	1.504379	1.504379	1.504379
Phase-1 RCT-141	0.81776855	0.808463	0.9706428	0.8670266	0.898639	1.4871573	1.3892056	1.330703	0.8938979	0.7440834	1.504379	1.504379	1.504379	1.504379
Uniquin conjugating enzyme (BAD 6 homologues)	0.73765975	0.9114892	0.918578	0.818578	0.7937336	0.52033683	0.8689076	0.6483044	1.1988571	0.181213	1.1866564	1.504379	1.504379	1.504379
DNA topoisomerase I	1.1414694	1.054032	1.2079335	0.2670173	1.2752844	1.4448695	0.9741917	0.9883891	1.3337784	1.214912	1.1260707	1.0520145	1.0608006	1.3213862
Beta-tubulin, class I	1.0809479	0.8735687	0.8686334	0.6757724	0.731008	0.6747904	0.8577837	0.85540843	0.60717434	1.381949	0.90380013	1.0565908	1.5371989	1.6202302
Carbamyl phosphate synthetase I	1.097054	1.0726323	1.0549282	1.2294037	1.2746496	0.84878374	0.8215811	0.81473607	1.293108	1.0545133	1.381949	0.90380013	1.0565908	1.5371989
Phase-1 RCT-141	0.81335046	1.0522574	1.2645379	0.92984784	1.2513217	1.1502928	1.1027484	1.1302577	1.33418	1.4582344	1.2478801	2.0718263	1.9222768	1.6602302
14-3-3 zeta	1.3499728	1.3743372	1.2008785	1.1885026	1.139514	2.060828	1.1027484	1.1302577	1.33418	1.4582344	1.2478801	2.0718263	1.9222768	1.6602302
Gamma-actin, cytoplasmic	2.4695523	2.1727884	0.707828	1.9712237	1.2489913	0.8801402	0.897548	0.897548	0.897548	0.897548	0.897548	0.897548	0.897548	0.897548
Silicacon protein L13A	1.5147691	1.628659	1.0750982	0.9502324	0.7166286	0.561684	0.56618994	0.6566234	1.6114365	1.669762	1.2263759	1.0224178	1.1859715	1.2119042
Phase-1 RCT-65	1.2670857	1.5530739	0.9102911	1.2196868	1.3331428	1.1407274	1.0752353	0.9831354	0.8410533	0.9375822	0.79101304	0.44462457	0.5189442	0.7355603
Shun	1.580989	1.6586537	1.943449	1.3317611	1.2383246	1.407274	1.0752353	0.9831354	0.8410533	0.9375822	0.79101304	0.44462457	0.5189442	0.7355603
Protein O-mannosyltransferase 1 (Pom1)	1.2620466	1.2628659	3.7507155	1.036056	4.944487	2.0524855	1.3800414	1.4381838	0.9886008	3.534283	0.9300802	0.765423	0.8786767	1.0892589
HMG CoA reductase	0.9408653	1.0045577	1.335407	1.335407	1.335407	1.335407	1.335407	1.335407	1.335407	1.335407	1.335407	1.335407	1.335407	1.335407
Phase-1 RCT-12	1.2427469	1.2528867	1.0786821	1.564029	1.3399119	1.2818308	1.182637	1.1867266	1.480188	0.94270575	0.6586299	0.56061765	0.51752365	0.5397396
Interferon related developmental regulator IFRD1	0.8943749	0.900337	0.7856404	0.9827396	0.81204235	1.0738144	1.2013717	0.75715933	0.70687776	1.1253503	1.6897974	1.3359295	1.7920036	1.920036
Glucose-regulated protein 78	1.100047	1.4017015	0.7080406	0.5757336	0.8545524	0.4368785	0.3726695	1.245668	1.245668	1.245668	1.245668	1.245668	1.245668	1.245668
3-beta-hydroxysteroid dehydrogenase (HSD3B1)	0.83513176	0.90653464	1.0077075	1.0395237	1.0395237	1.0395237	1.0395237	1.0395237	1.0395237	1.0395237	1.0395237	1.0395237	1.0395237	1.0395237
Caspase 6	1.448169	1.295298	1.237769	1.1723615	1.075983	1.4007074	1.1603724	1.1603724	1.1603724	1.1603724	1.1603724	1.1603724	1.1603724	1.1603724
Phase-1 RCT-169	1.1122804	1.1024202	0.832689	0.8071795	0.8633513	0.76863055	0.8051678	1.0704155	1.22176249	0.8260248	1.3278272	1.0032408	1.0332408	1.0332408
Phase-1 RCT-197	0.85790735	0.9470594	0.7262327	0.87447333	0.88407693	0.8188933	1.057327	1.1313346	1.1531376	1.4207877	0.8521918	1.0359816	1.4111732	1.2589512
Phase-1 RCT-34	0.9541856	0.886345	0.8029276	1.272087	1.0773942	1.228476	1.2571117	1.544446	2.195241	0.9148544	0.2709334	0.80130194	0.75145024	0.75145024

Table 28

Phase-1 RCT-72	1.1632466	1.1497065	1.0784408	1.0295455	1.0164021	0.9139234	0.9122699	0.8902516	1.0525395	1.1507241	0.98558134	0.8291193
Pyruvate kinase, muscle	1.1153003	1.1036906	1.0439586	1.0104981	1.0188682	1.3815341	1.1972934	1.2632668	0.82041675	0.7319853	0.5984887	0.8291193
Phase-1 RCT-268	0.8965404	0.6959275	0.877587	0.72586494	0.8107483	0.1023987	0.8692768	0.928545	0.6505011	0.8467033	0.842211	0.188662
Cytochrome P450 2C39 (alternate clone 2)	1.1604788	1.0784941	0.9732856	0.96589325	0.9902106	0.82077307	0.8673374	0.8846854	0.8646045	0.95910275	0.7884607	0.862539
Phase-1 RCT-260	0.3925543	0.5188859	1.6436788	0.90059125	1.0995278	1.3426635	1.0084045	1.1915363	1.0036292	1.449544	1.012144	2.0741665
Phase-1 RCT-261	3.2454116	3.6023922	2.0605282	2.1988869	0.92393935	0.8707605	0.7427678	0.8352362	0.7347232	0.300263	0.2801848	0.7245272
Methyl-CoA carboxylase alpha	0.8875087	0.9681992	0.8544214	0.8231791	0.79584324	1.0105912	0.3571196	0.2869332	0.8933488	0.8971035	0.9174722	1.224822
Cytochrome P450 1A2	0.9776212	1.064189	1.005421	1.004858	1.0207624	0.695932	0.9303317	0.84637316	0.7786956	0.4938553	0.9174722	1.441777
Phase-1 RCT-297	1.150562	1.011697	1.633081	1.3421009	1.230628	1.2842325	1.111542	1.1803528	0.8737264	0.9494087	0.7764075	1.2709187
Monocyte oxidase B	1.0927002	1.200428	0.65046	0.8257553	0.9785165	0.8604249	0.9193834	0.9796304	0.7284687	0.6993265	0.8382748	1.436258
Phase-1 RCT-264	0.7247194	0.8079825	0.9274844	0.9050946	0.6910171	2.231168	1.604119	1.455258	1.5000836	1.184322	0.8920239	0.7371407
Phenothiazine prodrug activated receptor gamma	0.6596893	0.586184	1.3735292	1.540002	1.017682	1.0165701	1.3946316	1.0719732	1.3043163	0.8161484	0.7490206	1.1197352
Phase-1 RCT-143	0.8570184	0.9049491	0.945193	1.0071682	0.9655033	1.1372136	1.060185	1.0695295	1.2247025	0.6768795	0.9519821	1.0104635
Phase-1 RCT-251	1.3092402	1.8119765	1.318988	0.9655898	1.4188455	1.1957287	0.7608394	1.095296	0.9501776	1.0695295	1.2247025	0.6768795
Phase-1 RCT-117	0.8119733	0.7829123	1.202403	0.469635	1.1871295	1.2028727	0.9287207	0.9801377	0.915011	0.4910763	1.051763	1.0742021
Glutathione S-transferase theta-1	0.9334046	1.006768	0.946891	1.006968	0.8910073	0.76321105	0.9362142	0.8403939	1.1974116	1.308133	0.9426359	1.006869
Phase-1 RCT-91	0.8476089	1.0283289	0.8247688	0.94597006	1.0352014	1.2411586	1.042308	1.1456908	0.831905	0.5753839	0.7480886	0.8557617
Phase-1 RCT-148	0.8442029	0.73309516	0.8620993	0.99914265	0.8976084	0.9176894	1.042308	1.1456908	0.831905	0.5753839	0.7480886	0.8557617
Phase-1 RCT-142	1.208805	1.4168495	1.0355688	0.9158485	0.8188872	0.5405743	0.6270648	0.87623794	1.0465454	1.2545007	0.7673747	0.835008
Activin receptor type II	2.2955576	1.6179283	0.9055575	1.13883	1.0705909	0.9373519	1.0076952	0.5736185	0.6584544	0.7726145	0.5417241	0.7316885
Glycine methyltransferase	0.76270473	0.6862142	0.88917005	0.822771	0.91479117	1.2821543	1.0681937	1.6185822	1.3104142	1.2512434	1.1877234	1.036858
Phase-1 RCT-281	0.8641665	0.8799003	0.9378845	0.9228418	0.8534116	0.7274112	0.8540845	0.9374631	0.9511628	0.7699405	1.2524908	1.4153033
Ciliary neurotrophic factor	1.0277741	0.9590947	0.9874397	0.9695295	0.92440057	0.8385616	0.85646704	0.7878625	0.861724	1.0013921	1.6396057	0.4500476
Gap junction membrane channel protein beta 1 (Gjb1)	0.9888818	1.0888654	0.96215796	0.9201691	0.8716278	0.6595804	0.63923154	0.8093003	1.0598435	0.9609506	0.92721075	1.082812
Phase-1 RCT-98	0.8159893	0.8898797	0.95368945	1.2208545	1.1424453	1.2366883	1.1695323	1.1215166	0.78873284	0.7088116	1.5868874	0.8610767
Phase-1 RCT-287	0.7304211	0.740447	0.76519845	1.0509123	1.1846858	1.3888851	1.1251059	1.167086	0.2095087	0.8888888	1.4848015	1.2256724
Very long-chain acyl-CoA synthetase	0.8174245	0.7958023	0.803675	0.9124303	0.9001856	0.95671946	1.0879744	1.10634	1.3955518	1.1814111	1.1428262	1.6837001
Syndecan-1	0.9153151	1.0275628	0.7745086	0.5577486	0.8210823	0.8174254	0.8561558	0.7875894	0.9851443	0.85921097	1.5201633	0.7619534
Phase-1 RCT-145	0.98769735	1.2790582	1.24247	0.8461351	0.7923595	1.065366	1.3945241	0.8901208	0.8872684	0.8133075	0.1610603	0.9222203
Phase-1 RCT-145	1.2439121	1.2721246	1.0105217	1.1327103	1.0713503	1.3203333	1.3555419	1.3136513	1.5439317	1.126231	1.4980225	1.5044491
Adn	0.9684732	0.8649783	0.96517323	0.73096327	0.6515657	0.64247937	0.8565655	0.820382	0.7243302	0.9358024	0.8037477	0.9625266
Phase-1 RCT-48	1.1613208	1.1388766	0.7185942	0.8378658	0.7439504	0.9505874	0.77631007	0.8515605	0.92325145	0.6505608	0.819526	0.845382
Sarcoplasmic reticulum calcium ATPase	1.4506844	0.94587255	0.7218233	0.6953375	0.61065704	0.3908156	0.60736	0.76316306	0.7087691	0.767405	0.9825688	1.1074997
Alpha-2-macroglobulin, sequence 2	0.9714241	0.7777904	1.0983198	1.1164016	1.0477706	0.87439464	0.78883433	0.8346434	1.007604	1.049358	1.3060301	0.8261276
Phase-1 RCT-204	0.8531602	0.7706134	0.9792123	0.62273656	0.70904976	1.4321207	1.1131294	1.0329584	1.079375	1.1580309	1.0422078	0.7158786
Vascular endothelial growth factor	0.57893217	0.61725458	0.9471531	0.9471216	1.0730528	1.1332413	0.8449855	0.8249946	1.5794828	0.70163316	1.1244615	1.2918222
NADP-dependent isocitrate dehydrogenase, cytosolic	0.7292506	0.7497474	1.1868939	1.2405177	1.1018492	1.1453905	0.94905885	0.88005897	1.2499148	1.3115887	1.6956133	1.4671962
DNA binding protein inhibitor ID2	0.6463135	0.59641707	0.7148886	0.9278091	0.5879122	0.35841134	0.7963917	0.4878285	0.6078552	0.8798902	1.6984073	0.63219064
Glutathione S-transferase Ya	1.0475893	0.9832081	1.1031203	0.87534326	0.91589729	0.7963917	0.7963917	0.7963917	1.563053	0.767323	0.9470847	1.5320638
Epoxide hydrolase	0.7564597	0.5989287	0.7309237	0.6284176	0.6874528	0.5206754	0.7310195	0.6812882	0.85514657	0.645755	0.2891303	0.9418932
Insulin-like growth factor I	1.0355821	0.55942913	1.5270888	2.8047916	1.5407084	2.586898	3.4887638	1.1811235	1.8082368	0.91348916	0.36888357	0.9749884
Prostaglandin H synthase	0.87280755	0.79512593	0.9658028	1.071242	1.82222	0.978064	2.822593	1.2294345	0.91700447	0.846559	0.9126331	0.6790178
Phase-1 RCT-136	0.63254155	0.7325053	0.7278973	0.132684	0.8533568	0.802201	0.9395233	0.8471333	0.8861078	2.8826382	1.003509	1.2272008
Phase-1 RCT-137	0.9134083	0.8786537	0.8706034	0.9533055	0.934944	0.8448684	1.277697	0.9085744	0.7440171	0.8257684	1.1838184	0.7573184
Hepatic lipase	0.676499	0.6433324	1.03716	0.708702	1.0311888	0.52971363	0.88755263	0.8943539	0.8523828	0.8625547	0.7160434	0.89751636
Phase-1 RCT-164	0.867353	0.8298361	1.3468238	1.8842306	1.5632342	1.448719	1.2295723	1.3803933	1.181242	0.98118705	0.87289244	0.7160434
Acyl-CoA dehydrogenase, medium chain	0.8744547	0.70743483	1.3468238	1.8842306	1.5632342	1.448719	1.2295723	1.3803933	1.181242	0.98118705	0.87289244	0.7160434
Glutathione S-transferase Yb2 subunit	1.230837	1.2014769	1.36549	1.4008471	1.229729	2.448719	1.229729	1.229729	1.111156	0.8521109	0.82862554	0.80030533
Carbamoyl reductase	0.885908	0.8685878	1.2538053	1.3633324	1.5357164	2.7721396	1.6181211	0.6918214	1.0206383	0.9881119	1.6030767	0.47394648
Phase-1 RCT-166	0.6928818	0.7370865	0.6373324	0.75302184	0.6231872	0.6181211	0.6918214	1.0206383	0.9881119	1.6030767	0.47394648	0.3563953
Adipocytin E	0.8018561	0.9622668	0.5777857	0.83212185	0.56624057	0.94579375	1.1388319	1.3983348	1.485553	1.3043364	0.80334646	0.8514419
UDP-glucuronosyltransferase	0.780731	0.7539668	0.8509398	0.907427	0.777772	1.8983348	1.485553	1.3043364	0.8033464	0.8514419	0.5511707	0.9985904
Glutathione S-transferase P1	0.8146224	1.201184	1.2715217	1.1839816	1.342719	0.9418565	0.69701964	0.8271024	0.9208914	1.2776438	1.4438003	1.0345317
Disulfide isomerase related protein (Ero72)	0.162511	0.3506719	0.8024151	0.9216814	0.9433864	1.3341535	0.9923705	0.76634445	0.74172576	2.187459	1.0588775	1.5138701
Ribosomal protein L13	0.6463536	0.96051997	1.1297261	0.8319876	0.9318648	0.9258124	0.82657	0.7262002	0.999139	1.386388	1.3424978	1.8216971
Ceruloplasmin	0.86162955	0.9578501	1.4108797	1.0433478	1.2285004	1.1714885	1.3013588	1.2426153	1.3116717	1.0382118	0.87894085	0.8316061
Inter-alpha-inhibitor H4 heavy chain (Ith4)												

Table 28

Phase-1 RCT-13	0.0355447	0.0395714	1.1680317	1.2281176	1.1766759	1.5989965	1.3203048	1.1794345	1.0766814	0.9563968	0.8403319	0.5268245	0.5962084	0.7017373
Felun beta (relu)	1.008193	0.9073276	1.141366	1.419065	1.6391253	1.2317579	1.0815339	1.3790599	1.1137623	0.7990028	0.6033191	0.5268245	0.5962084	0.7017373
3-hydroxybutyrate dehydrogenase	0.8004312	0.8617506	0.866013	0.9297474	1.049428	0.866346	0.8677032	0.971681	0.8672213	0.7951914	0.6033191	0.5268245	0.5962084	0.7017373
Carbonic anhydrase III, sequence 2	0.9802197	0.7166116	0.7380021	1.4224036	1.2980293	0.90051607	1.0715952	1.746742	0.8016424	0.5924348	0.4033533	0.257483	0.4887169	0.7017373
Phase-1 RCT-10	0.7507133	0.7415813	0.90210943	0.9028864	0.72274136	0.63171752	0.55664945	0.6978436	0.84617186	0.87016298	0.7032427	0.2942427	0.3623303	0.7017373
Alpha-2-microglobulin	0.8543988	0.8091555	0.41874966	0.116872	0.6542959	0.63717152	0.55664945	0.6978436	0.84617186	0.87016298	0.7032427	0.2942427	0.3623303	0.7017373
Dynamin-1 (D100)	0.8532068	0.5927528	0.7030439	0.779538	0.6122005	0.7704308	0.6148334	0.6949664	0.7115494	0.6235137	0.8142056	0.8094098	1.0333255	0.7017373
Lysyl oxidase	0.9852945	1.1	0.6453353	0.5517979	0.96779525	0.6511208	0.6511208	0.6511208	0.6511208	0.6511208	0.6511208	0.6511208	0.6511208	0.7017373
Phase-1 RCT-252	0.9007296	0.86451683	0.8022477	0.7280834	0.64551535	0.861184	0.8192303	0.9159586	0.9924537	0.1016381	0.9602502	0.854327	0.8671001	0.7017373
Phase-1 RCT-29	0.8091201	0.8259457	1.346204	1.204932	1.2173442	1.1728682	1.2057256	1.4375365	1.4943265	1.3013704	1.4943265	1.3013704	1.4943265	0.7017373
Phase-1 RCT-278	0.8091201	0.8259457	1.346204	1.204932	1.2173442	1.1728682	1.2057256	1.4375365	1.4943265	1.3013704	1.4943265	1.3013704	1.4943265	0.7017373
Phase-1 RCT-25	0.998652	1.0944405	1.1570483	1.2536518	1.3013704	1.052097	1.052097	1.052097	1.052097	1.052097	1.052097	1.052097	1.052097	0.7017373
Cytochrome P450 2C11	1.0477988	1.3320513	0.828166	0.94313395	0.889177	0.70781108	0.63948167	1.5356594	0.96178935	1.2803216	1.2803216	1.2803216	1.2803216	0.7017373
Phase-1 RCT-202	0.81548154	0.8705482	1.3963834	1.5307783	1.6748725	2.4147549	1.5500416	1.5356594	0.96178935	1.2803216	1.2803216	1.2803216	1.2803216	0.7017373
Complement factor (CFI)	0.7944027	0.94054633	1.456007	1.2033729	1.3971867	1.01678	0.9330216	1.2803216	1.2803216	1.2803216	1.2803216	1.2803216	1.2803216	0.7017373
Proliferating cell nuclear antigen gene	1.250155	1.3149804	1.188911	0.9436524	0.88696355	2.2433396	1.3549339	1.4424229	1.3409036	0.7071523	1.0774729	1.3708002	1.3708002	0.7017373
Activating transcription factor 3	1.074857	0.9421904	0.80036073	0.7685088	0.7685088	0.7685088	0.7685088	0.7685088	0.7685088	0.7685088	0.7685088	0.7685088	0.7685088	0.7017373
Focal adhesion kinase (p125-AK)	0.81359533	0.94704083	0.80036073	0.7685088	0.7685088	0.7685088	0.7685088	0.7685088	0.7685088	0.7685088	0.7685088	0.7685088	0.7685088	0.7017373
Phase-1 RCT-289	0.80255456	0.8754532	0.7282928	0.9721758	0.8967394	0.9618697	1.0445987	1.0153991	0.8027923	0.7302274	1.4096666	0.83384955	1.004985	0.7017373
Phase-1 RCT-259	1.45912	1.0675374	1.198728	1.0644622	0.9650294	1.0883241	1.1176989	0.9787859	0.9009659	1.2025857	0.8652056	0.80011946	1.2811084	0.7017373
Intracellular element-binding protein	1.1640453	1.8355906	1.0352157	1.0759178	1.0759178	1.0759178	1.0759178	1.0759178	1.0759178	1.0759178	1.0759178	1.0759178	1.0759178	0.7017373
MHC class II antigen RT1.A1(a) alpha chain	0.9872569	1.0183107	1.3581942	1.315997	0.8772208	0.781762	0.770897	0.93870676	1.261087	0.54680054	0.2471351	0.2312016	1.3594514	0.7017373
ATP sulfurylase	1.2438897	1.310165	0.5671944	0.7857671	0.8772208	0.781762	0.770897	0.93870676	1.261087	0.54680054	0.2471351	0.2312016	1.3594514	0.7017373
Phase-1 RCT-171	0.8162457	0.920583	0.8690023	0.99438	0.88579994	1.0586301	1.2303742	1.0737453	1.2685715	1.554767	0.834058	0.9530861	0.9530861	0.7017373
Phase-1 RCT-143	0.8125678	0.6399464	0.8961004	0.833401	0.6942604	0.64119524	0.6801539	0.7189726	0.687106	0.8078531	0.9224354	0.84551483	0.78405636	0.7017373
Phase-1 RCT-270	1.4584934	1.5315052	0.6152946	0.7676816	0.72315995	0.8639491	0.8042685	0.7957915	0.6292733	0.9002535	1.6370288	0.7148238	0.77083343	0.7017373
Calcium-stimulating factor-1	0.9541161	1.0356934	1.0597334	1.00965	1.0419124	0.9732332	0.9196963	0.9711775	0.1539525	0.3282315	1.0684748	1.1870705	1.3934805	0.7017373
Phase-1 RCT-22	1.3099031	1.1697026	0.9132334	0.83056923	1.3004177	1.0289328	0.90722704	0.9350222	0.1130728	1.1257712	0.914178	0.0055274	0.9424185	0.7017373
Phase-1 RCT-42	0.80662445	0.77057326	0.8002446	0.80655746	0.87591773	0.7620192	1.1037188	0.908813	1.442651	1.2263314	1.0035723	0.7964152	1.0787102	0.7017373
AT-3	1.4153643	1.618675	1.0225776	1.1685057	0.98594546	1.481328	0.768572	1.3059682	0.8310691	0.8521061	0.9494874	0.9706572	1.102771	0.7017373
Phase-1 RCT-18	0.802625	0.8008194	0.8773513	0.90315026	0.93329567	0.9653415	0.95939865	0.9147142	0.9890918	1.0044622	0.9429594	1.0044622	0.9429594	0.7017373
Phase-1 RCT-123	0.9787586	0.9073245	1.1024798	1.043193	1.043193	1.043193	1.043193	1.043193	1.043193	1.043193	1.043193	1.043193	1.043193	0.7017373
Phase-1 RCT-66	0.8944515	1.2252538	0.8004535	0.8556964	0.724544	0.6783063	0.7355408	0.84205216	0.9458036	1.0382902	1.0237658	1.1357505	1.0635376	0.7017373
Equilibrative nitrobenzylthioinosine-sensitive nucleoside transporter	0.8052924	0.8228847	0.7899385	0.8589392	0.7068555	0.6489566	0.7387073	0.73833074	0.716545	0.7604336	0.8582106	1.1219658	1.3089018	0.7017373
Glucose transporter 2	1.1687453	1.4233778	0.7163323	0.7835373	0.756903	0.4313323	0.8332583	1.128374	1.207415	0.8945252	0.85130745	1.5878882	1.4378595	0.7017373
Mullitid resistant protein-2	1.5341338	1.4399768	1.3046955	1.2944033	1.0421566	1.6091955	1.188789	1.0005653	0.3208198	4.807093	0.10718062	0.8050596	0.65369104	0.7017373
Mullitid resistant protein-1	2.3346238	2.0958498	1.943434	2.2719335	1.9071878	1.8622365	1.3722693	1.1376268	2.2431374	3.502903	0.80421515	0.70096517	0.53402223	0.7017373
Phosphatidylcholine-binding protein	1.0885434	1.0276623	1.5466436	1.6243107	1.624712	1.4001831	1.3017048	1.3077749	0.6517656	0.7627219	0.8432806	0.40581638	0.5150025	0.7017373
Phase-1 RCT-180	1.132526	1.0776638	1.2017014	1.4432519	1.5982949	1.3770821	1.2371017	1.2076325	0.9288778	0.98915654	1.5436482	1.1569391	1.3111224	0.7017373
Insulin beta-4	1.3114878	1.4232178	1.324651	1.6908343	1.4487395	1.1	1.0398332	0.92653387	0.93077985	0.94782697	0.8643266	0.5495312	0.81237143	0.7017373
NADPH cytochrome P450 oxidoreductase	4.080484	3.0027156	1.6898282	2.0832083	2.0184879	2.1802892	1.8882307	1.8889552	1.0302114	1.0307524	0.9989546	0.34005373	0.3130526	0.7017373
Wdr1	1.5242809	1.3646875	1.2337272	1.1225349	0.9550196	0.8085765	0.9686377	1.0050466	0.9481719	1.1917276	1.4642729	0.8771716	1.0364027	0.7017373
Endogenous retroviral sequence, 5' and 3' LTR	0.5165893	0.8002911	0.8462144	0.9154013	0.74184805	0.8055225	0.95860756	0.7904804	0.7588027	0.48235932	0.7625042	0.7058245	0.6123458	0.7017373
Phase-1 RCT-53	0.97076885	0.867602	0.8353607	0.82420313	0.91859156	1.0179054	0.9564804	1.0162714	1.0381478	1.0604268	1.11639759	0.85024164	0.9653008	0.7017373
Phase-1 RCT-54	0.84812634	0.907494	0.8142359	0.973708	0.9316063	0.9507991	0.9564804	1.0162714	1.0381478	1.0604268	1.11639759	0.85024164	0.9653008	0.7017373
Phase-1 RCT-240	1.0712868	1.1249552	0.689027	0.7642193	0.8023651	0.8471472	0.90102226	0.8969238	0.94851345	1.1326519	0.97196394	1.464984	1.3798085	0.7017373
Osteopontin	1.0851002	1.0320269	0.7483085	0.70676945	0.8110116	0.7564688	0.6593668	0.84851345	1.1326519	0.97196394	1.464984	1.3798085	1.3798085	0.7017373
Phase-1 RCT-241	1.1884532	1.1025358	1.571276	1.7808882	1.286136	2.308668	0.8110116	0.7564688	0.6593668	0.84851345	1.1326519	0.97196394	1.464984	0.7017373
Organic anion transporting polypeptide 1	1.0597084	1.2068901	1.1760324	0.93200153	0.9687735	0.846048	0.9384608	1.028387	1.0802159	1.2358574	0.7835003	1.7342552	2.8541074	0.7017373
Phase-1 RCT-241	0.73125684	0.8166276	1.2516875	0.9085196	0.95987433	0.9085196	0.95987433	0.9085196	0.95987433	0.9085196	0.95987433	0.9085196	0.95987433	0.7017373
Tissue factor pathway inhibitor	1.0933158	0.9859917	0.89027317	0.692016	0.86801376	0.7301155	0.5880539	2.082097	2.2434613	1.93203	1.1681572	1.098278	1.2812824	0.7017373
Cytidine-dependent kinase 4 inhibitor p27/kp1 (allotype)	1.791322	1.226172	0.7167089	1.2052257	0.8963515	1.0267171	0.8504984	0.9386647	0.8985664	1.1385584	0.5197685	1.2719193	0.96762824	0.7017373
Phase-1 RCT-59	1.2348436	1.1883724	0.8371895	0.8229622	0.98145944	0.9459683	0.81764878	1.2582023	0.6753571	1.6571651	1.541195	1.385762	0.9161887	0.7017373
Phase-1 RCT-113	0.9290739	0.97075635	0.8468909	0.8673317	1.0037491	1.0501468	1.2800573	1.1537061	0.7135868	1.0051054	0.9889177	1.081886	1.0943451	0.7017373
Phase-1 RCT-113	1.146887	1.1534777	1.180266	1.0505307	1.0380102	0.94721204	0.9886866	1.0371931	1.310019	1.3834689	0.5310305	0.8518387	0.8803309	0.7017373
Adenine nucleotide translocator 1	1.220433	1.478749	0.8130558	0.8281134	0.8093503	0.8342373	0.8342373	0.8342373	0.8342373	0.8342373	0.8342373	0.8342373	0.8342373	0.7017373
Alpha-1 acid glycoprotein	2.6862674	4.6588697	0.9496379	0.6038814	0.6561565	0.441198	0.7183224	0.83197027	0.8633422	0.5940558	2.4682926	2.897948	2.0955124	0.7017373
MHC class II antigen RT1.B-1 beta chain														

Organic cation transporter 3	1.3008914	1.6115648	0.9286837	0.8830623	0.82173814	0.8449113	0.77970564	0.8303689	1.523431	1.090539	1.436966	1.3697642	1.4111731	1.9091
Hypoxia-inducible factor 1 alpha	1.1791086	1.0043509	0.87091506	0.82516394	0.7562802	0.5694877	0.72094613	0.8248941	1.1681357	1.4453365	0.6414751	1.5693687	1.8714638	0.8284366
Phase-1 RCT-43	0.94853844	0.8375707	0.7806597	0.83074284	0.85901566	0.9695021	1.0687524	1.1066555	1.16891	1.1590656	0.8717559	1.0426915	1.2973042	0.6902607
Phase-1 RCT-45	0.9024157	0.98512496	0.8353957	0.83074284	0.83121127	1.2782364	1.2554395	1.2278699	1.2784302	1.2189608	0.8037108	1.2291647	1.3465312	0.7889805
Malate dehydrogenase, cytosolic	1.1438769	0.8743665	1.0918174	1.0283773	1.2735565	1.6935208	1.2160175	1.1374211	0.87454534	0.4124624	1.1657646	1.2058377	1.2685737	1.8240716
VI30 element	0.47812206	0.52471316	0.88726598	0.622607	0.4614071	0.7746	0.6278817	0.6417685	0.82097236	0.3450513	1.0459129	0.9880063	0.80768556	0.68844014
Phase-1 RCT-189	0.9487965	0.7826163	0.7868117	0.775535	0.7189452	0.7283643	1.0961483	0.76307045	0.816683	0.75143224	2.0689718	1.0054439	1.0387983	1.6078391
Alpha-fetoprotein	1.5346263	1.500655	0.8923707	0.78913873	0.84834254	0.82212615	0.74228276	0.73424464	1.1173456	0.9170586	0.8853854	0.83712065	1.0589288	1.1354331
Calgranulin B	0.87528464	0.8776197	1.0237689	1.1195464	1.3460073	1.5681044	1.0713588	1.0337911	1.046298	0.88966095	2.0475407	1.236588	1.5657574	1.4918704
Tissue plasminogen activator	0.95836946	1.077457	1.0534855	0.928463	1.040452	1.105614	1.0713588	1.0337911	0.7632914	0.791555	1.0461301	1.3716481	0.9901078	1.0743205
Phase-1 RCT-195	1.0832429	0.8672703	0.8457269	0.88711303	0.9324335	1.1530733	1.0593444	0.9450753	0.8078748	0.7724025	1.340205	1.1201128	0.9585937	1.350883
Phase-1 RCT-204	0.63131595	0.8744925	0.7414555	0.67297137	0.3435729	0.38188394	0.55984473	0.7063886	1.3316345	0.9650653	1.7726935	0.8529716	1.1702722	1.3541435
Phase-1 RCT-221	0.82842636	0.9178771	1.08238	1.0220344	1.173214	1.3188265	1.1271222	1.1258944	1.0562371	0.8536232	1.776052	1.0821784	0.93244845	0.7536909
Phase-1 RCT-235	1.045845	1.0165571	1.1783431	1.1580829	1.045498	1.1137351	1.0777352	1.1593354	0.800716	0.7596816	0.9280656	0.87500155	0.9647531	1.0309957
Phase-1 RCT-254	1.0418745	1.1052159	1.2155454	1.2653539	1.1910245	1.4327278	1.2245419	1.1593354	0.9212778	0.8518884	0.9280656	0.87500155	0.9647531	1.0309957
Phase-1 RCT-258	1.1354426	1.1798067	1.1978168	1.0546937	1.0454806	0.945207	1.025768	1.1132784	1.1989742	1.1289484	0.77806026	0.8739955	1.2169837	0.7556585
Phase-1 RCT-259	1.1080614	1.1173856	0.7766395	0.80830893	0.8545553	0.75882588	0.81834866	0.8382678	1.1989742	1.220203	0.8685025	0.9583271	1.119747	1.052626
Phase-1 RCT-235	1.195045	1.209758	0.87525375	0.74651474	0.7704823	0.7044417	0.80665624	0.7995034	1.2784948	1.2892183	0.88409166	1.0046887	1.2524043	1.1093826
Organic anion transporter 3	1.0294556	1.0789193	1.0967109	1.2803571	0.9622554	1.0889704	0.9815659	0.8455374	1.0470888	1.308735	0.74752533	1.3064688	1.1967112	0.7357841
Matrix metalloproteinase-1	1.0331739	1.1545676	0.7825567	0.78120765	0.81541306	1.0438836	0.7833338	0.8213148	1.231405	1.1117179	0.7683396	0.66487163	0.8457176	0.8538271
Matrix metalloproteinase-1	0.4028435	0.4279862	0.4932887	0.51525813	0.46051115	0.30105898	0.61636084	0.6516824	0.8865156	0.5161849	2.485853	1.0747353	1.2703173	1.8503121
Urinary protein 2 precursor	1.1462754	1.2530512	1.0371894	1.0259414	0.9498888	0.8385461	0.6587466	0.7160929	0.6472754	0.82816195	0.97280655	1.0761435	0.91478388	0.95177185
Phase-1 RCT-212														
(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour pretreatment periods (Table 18).														
(2) Compound and dose abbreviations as in Table 1.														
(3) Individual animal number														
(4) Liver inflammation classification for compound-dose group at 72 h: yes=ncr, necrosis observed; yes=both, necrosis with inflammation observed; no, no histopathology observed														
(5) Predictive gene (as in Table 18 and as included in Table 26)														

Table 28

Table 26. Expression Data for 6 Hour Timepoint (1)														
Compound-Dose (2)	ERY 160	ERY 160	ERY 160	ERY 160	ERY 160	ERY 160	ERY 160	ERY 160	ERY 160	ERY 160	ERY 160	ERY 160	ERY 160	ERY 160
Animal Number (3)	352	353	354	355	356	357	358	359	360	361	362	363	364	365
Gene Name (5)	1.1011612	0.9709111	0.9024676	1.0365711	0.8501805	1.5081958	0.8744604	0.8576927	0.8655914	0.9286351	0.9211955	1.0208721	1.1878667	1.1878667
Gene Name (5)	0.89152616	0.89152616	0.89152616	0.89152616	0.89152616	0.89152616	0.89152616	0.89152616	0.89152616	0.89152616	0.89152616	0.89152616	0.89152616	0.89152616
Insulin-like growth factor binding protein 1	0.9556488	0.9556488	0.9556488	0.9556488	0.9556488	0.9556488	0.9556488	0.9556488	0.9556488	0.9556488	0.9556488	0.9556488	0.9556488	0.9556488
Gadd153	0.9444007	0.9444007	0.9444007	0.9444007	0.9444007	0.9444007	0.9444007	0.9444007	0.9444007	0.9444007	0.9444007	0.9444007	0.9444007	0.9444007
c-myc	0.88536276	0.88536276	0.88536276	0.88536276	0.88536276	0.88536276	0.88536276	0.88536276	0.88536276	0.88536276	0.88536276	0.88536276	0.88536276	0.88536276
NFK	1.3247303	1.0581913	1.0770248	0.9072448	1.0091324	1.4356539	1.3269851	0.9211644	1.0408347	1.1025679	1.1618222	1.0816338	1.1955586	1.3953112
Chaperonin L, sequence 2	1.4022268	1.5493981	0.90800186	1.0594988	0.71305335	1.116625	0.9047209	0.9541441	0.9617256	0.9220069	1.0049	0.9722828	1.2555585	1.2555585
Heme oxygenase	1.3594707	1.318573	1.1769102	1.1301713	1.0346221	1.3271195	1.3688476	0.9873653	0.9873653	0.9873653	0.9873653	0.9873653	0.9873653	0.9873653
Phase-1 RCT-109	0.8574448	1.0432345	0.7159102	1.0346221	1.0346221	1.0346221	1.0346221	1.0346221	1.0346221	1.0346221	1.0346221	1.0346221	1.0346221	1.0346221
Angiotensin-converting enzyme	1.3112205	1.9899453	1.0435547	0.9800056	1.1607779	1.0959189	0.8976953	0.9873653	0.9873653	0.9873653	0.9873653	0.9873653	0.9873653	0.9873653
DNA polymerase beta	1.4402336	1.2605563	1.1825988	1.1221668	1.0390445	1.2516187	1.6165448	0.7609051	0.37288248	0.3958333	0.3958333	0.3958333	0.3958333	0.3958333
Phase-1 RCT-103	0.9503421	1.2605563	1.1825988	1.1221668	1.0390445	1.2516187	1.6165448	0.7609051	0.37288248	0.3958333	0.3958333	0.3958333	0.3958333	0.3958333
Phase-1 RCT-108	1.7618399	1.6397167	0.992755	1.0680555	1.2527425	1.2516187	1.6165448	0.7609051	0.37288248	0.3958333	0.3958333	0.3958333	0.3958333	0.3958333
Phase-1 RCT-102	0.8453878	0.8553398	0.9661334	0.9585526	0.98848075	1.1721804	0.978297	1.2124351	1.0719277	1.0672469	1.040189	0.9130305	1.043072	1.0215552
Ribosomal protein S9	1.0581905	0.9674718	0.9165206	0.71341854	0.6525283	0.6586874	1.1304986	1.1494001	0.8889578	1.1593689	1.1224628	1.1837616	1.208211	1.208211
Phase-1 RCT-114	1.0581905	0.9674718	0.9165206	0.71341854	0.6525283	0.6586874	1.1304986	1.1494001	0.8889578	1.1593689	1.1224628	1.1837616	1.208211	1.208211
Phase-1 RCT-15	1.0581905	0.9674718	0.9165206	0.71341854	0.6525283	0.6586874	1.1304986	1.1494001	0.8889578	1.1593689	1.1224628	1.1837616	1.208211	1.208211
Macrophage inflammatory protein-2 alpha	1.0581905	0.9674718	0.9165206	0.71341854	0.6525283	0.6586874	1.1304986	1.1494001	0.8889578	1.1593689	1.1224628	1.1837616	1.208211	1.208211
NGF-inducible anti-proliferative putative secreted protein (PC3)	1.203858	1.5961109	0.8492534	0.9930909	0.9753433	0.9171475	1.3289756	0.8220695	0.81479526	0.88858664	1.1761976	1.10827	1.021746	1.0031441
Phase-1 RCT-191	0.5102664	0.7761688	0.9373135	0.9150946	0.9184071	1.0668242	0.7503807	1.1330329	0.9174525	0.8694708	0.8922458	1.026178	1.1071336	1.1071336
Phase-1 RCT-193	1.1515296	0.9492781	0.7070791	1.2173963	0.8884059	0.7731594	0.77410394	1.627153	1.036283	1.3065418	1.0773531	1.1895539	1.1416478	1.4803888
Cyclin D3	1.2033508	1.1097715	1.0776842	1.5590131	1.0811883	1.1188741	1.0293228	0.8856803	1.0882715	1.036283	1.3065418	1.0773531	1.1895539	1.1416478
Phase-1 RCT-108	0.7884255	0.86435415	1.1291795	1.1274732	1.0870583	1.0538841	1.3946311	0.5900812	0.8566803	1.3652338	0.9690156	0.7276976	0.8162864	0.7621318
Phase-1 RCT-136	1.5643325	0.98091424	0.9947237	0.8017784	0.87571126	1.1210703	1.1432319	0.7482809	0.8435678	0.8435678	0.8435678	0.8435678	0.8435678	0.8435678
Phase-1 RCT-192	0.9867418	0.67930233	1.0984675	1.0937734	1.141458	1.1003376	1.1800225	0.7482809	0.8435678	0.8435678	0.8435678	0.8435678	0.8435678	0.8435678
Phase-1 RCT-76	0.7463875	0.81766373	0.978314	1.1075618	1.0201117	0.8958626	0.8070884	1.097275	1.2815928	0.7482809	0.8435678	0.8435678	0.8435678	0.8435678
Phase-1 RCT-195	1.970416	1.1805763	0.93414533	1.1314308	0.9466537	1.2056348	1.0184463	0.8954175	1.0184463	0.8954175	1.0184463	0.8954175	1.0184463	0.8954175
Acetyl-CoA carboxylase	0.8311227	0.8454711	1.116095	0.9888861	1.0030496	0.9554175	1.0184463	0.8954175	1.0184463	0.8954175	1.0184463	0.8954175	1.0184463	0.8954175
Phase-1 RCT-195	1.1885328	1.4723004	0.8240225	0.8849542	0.9050608	1.069004	1.1904958	0.9504924	1.0184463	0.8954175	1.0184463	0.8954175	1.0184463	0.8954175
Cystatin C	1.5133139	0.9021388	0.80823284	0.8759459	0.84502137	0.9885554	1.0527446	0.73316484	0.8954175	1.0184463	0.8954175	1.0184463	0.8954175	1.0184463
Phase-1 RCT-49	1.4600878	0.8336553	0.60415664	0.9255938	1.1540786	0.9524009	1.3412786	0.7825911	0.8336553	1.0291488	1.0291488	1.0291488	1.0291488	1.0291488
Phase-1 RCT-19	0.8417277	1.0102928	0.8496318	0.9500578	0.7344833	0.7587283	0.7842495	0.8336553	1.0291488	1.0291488	1.0291488	1.0291488	1.0291488	1.0291488
Gadd45	0.9722545	0.90829194	1.123947	1.0163566	1.0244338	0.98317458	1.4486613	0.8336553	1.0291488	1.0291488	1.0291488	1.0291488	1.0291488	1.0291488
Phase-1 RCT-156	1.5324733	1.6156659	1.4924038	1.3169945	1.2744254	1.1566922	1.2150831	0.803288	0.803288	0.803288	0.803288	0.803288	0.803288	0.803288
Phase-1 RCT-127	1.4400819	1.0136856	0.8405984	0.8405984	0.8405984	0.8405984	0.8405984	0.8405984	0.8405984	0.8405984	0.8405984	0.8405984	0.8405984	0.8405984
Macrophage inflammatory protein-1 alpha	0.9564313	0.86810464	0.86184276	0.86184276	0.86184276	0.86184276	0.86184276	0.86184276	0.86184276	0.86184276	0.86184276	0.86184276	0.86184276	0.86184276
Zinc finger protein	0.8141191	0.7466667	1.1994593	1.2009914	1.0358801	1.0358801	1.0358801	1.0358801	1.0358801	1.0358801	1.0358801	1.0358801	1.0358801	1.0358801
Phase-1 RCT-73	1.0218548	1.3858722	0.9591825	0.8652518	1.0116353	1.0344901	0.8620208	0.95888374	0.82391334	1.0295309	1.066206	1.1030624	0.8870734	0.8870734
Guanine synthase	1.034441	1.5683843	1.5630064	1.189698	1.3755157	1.1957035	1.3032209	0.8167689	1.0235181	1.3080886	1.4872484	1.1691604	1.3317046	1.3317046
CAB-binding protein	1.4374032	1.7904607	1.0711612	1.1564097	1.202521	1.237297	1.0468677	0.74815214	0.98533176	0.8215811	1.3509086	1.4872484	1.1691604	1.3317046
Phase-1 RCT-242	0.98262244	0.8796556	0.67886093	0.8376394	0.82521685	1.3312824	0.7098084	1.3371246	1.2816669	0.98533176	0.8215811	1.3509086	1.4872484	1.1691604
Phase-1 RCT-50	0.82211954	0.7402784	0.68423885	0.6163301	0.76708394	0.74683734	0.6471496	1.1689371	0.6774882	0.6774882	0.6774882	0.6774882	0.6774882	0.6774882
Phase-1 RCT-1	1.5821709	2.4764445	1.4100975	1.1791188	0.95255965	0.85499406	0.85783626	0.7301246	1.2816669	0.98533176	0.8215811	1.3509086	1.4872484	1.1691604
Elongation factor-1 alpha	0.8453805	0.6858106	0.9815937	0.75300556	0.8459224	0.7421367	0.7301246	1.2816669	0.98533176	0.8215811	1.3509086	1.4872484	1.1691604	1.3317046
Insulin	0.8568819	0.78263375	0.8303002	0.75300556	0.8459224	0.7421367	0.7301246	1.2816669	0.98533176	0.8215811	1.3509086	1.4872484	1.1691604	1.3317046
Phase-1 RCT-59	0.8568819	0.78263375	0.8303002	0.75300556	0.8459224	0.7421367	0.7301246	1.2816669	0.98533176	0.8215811	1.3509086	1.4872484	1.1691604	1.3317046
Phase-1 RCT-76	0.87147105	1.0107573	1.0094254	1.0313685	1.0313685	1.0313685	1.0313685	1.0313685	1.0313685	1.0313685	1.0313685	1.0313685	1.0313685	1.0313685
Ferritin H-chain	0.79536283	1.3405317	1.281707	0.9923837	1.2789036	1.1880831	1.0161642	1.4595549	0.8451636	0.9135725	0.7471587	0.7753227	1.2430978	1.0657342
Phase-1 RCT-112	0.8901988	0.84466743	0.93381345	1.1537286	1.1537286	1.1537286	1.1537286	1.1537286	1.1537286	1.1537286	1.1537286	1.1537286	1.1537286	1.1537286
PTEN/MAC1	0.93088104	0.77633894	0.9731007	1.0362787	0.9814053	0.9868643	0.9221725	1.004082	1.0344901	1.0344901	1.0344901	1.0344901	1.0344901	1.0344901
Phase-1 RCT-214	0.865212	0.5495735	0.73060906	0.9957786	0.8086982	0.7231497	0.7103803	0.8954175	0.8954175	0.8954175	0.8954175	0.8954175	0.8954175	0.8954175
Thymidylate synthase	0.7883341	0.52816576	0.73060906	0.9957786	0.8086982	0.7231497	0.7103803	0.8954175	0.8954175	0.8954175	0.8954175	0.8954175	0.8954175	0.8954175
Phase-1 RCT-13	1.0415143	1.3950613	0.7623462	0.72605455	1.076611	0.8911851	1.5037379	0.81870826	0.7623462	0.7623462	0.7623462	0.7623462	0.7623462	0.7623462
Nucleosome assembly protein	0.86540055	0.5688959	1.1789089	1.1430654	1.253986	1.253986	1.253986	1.253986	1.253986	1.253986	1.253986	1.253986	1.253986	1.253986
Cholesterol alpha-hydroxylase (P450 VM)	1.085214	0.9313376	1.1038982	0.5281573	0.77892923	0.8128887	0.8128887	0.8128887	0.8128887	0.8128887	0.8128887	0.8128887	0.8128887	0.8128887
Vesicular monoamine transporter (VMAT)	0.84													

Phase-1 RCT-32	0.8221412	0.9422763	0.9613878	0.9698478	0.9829405	0.9163301	0.957783	1.017407	1.025345	1.016076	1.2684104	1.330037	1.6498477
Peroxisome assembly factor 1	0.95769728	0.87218034	0.7710701	0.9253881	0.9458653	0.9214005	0.8374128	1.1314152	0.9180719	0.8523774	0.9868243	1.0788538	1.0659807
8-oxoguanine DNA glycosylase	0.9898684	0.8375038	0.9007015	0.9573106	0.8031893	0.84116546	0.8255594	1.1797314	1.0118563	0.8362205	0.8958565	0.85190624	0.8918856
Phase-1 RCT-42	1.0560724	0.80767654	0.75181127	0.8957319	0.8659771	1.0405539	0.8954067	1.1208044	1.0242131	0.8278825	0.8601953	0.9642041	0.91251785
Methionine F/G	0.8890115	1.0277851	1.0353189	1.0353391	1.3073263	1.209018	1.2115575	0.7732058	0.70318	0.6881347	0.8768026	0.9647533	0.75440556
Phase-1 RCT-184	0.9673016	1.2233771	1.1242825	0.96407306	0.91200477	1.0861168	1.0471693	0.7120606	0.70318	0.6881347	0.8768026	0.9647533	0.75440556
Phase-1 RCT-168	0.94150996	1.172966	1.1463357	1.2553256	1.2553726	1.2274389	1.1545478	0.70318	0.6881347	0.8768026	0.9647533	0.75440556	0.71491396
Phase-1 RCT-119	1.4355767	1.3788809	1.463357	1.2553256	1.2553726	1.2274389	1.1545478	0.70318	0.6881347	0.8768026	0.9647533	0.75440556	0.71491396
Carbonic anhydrase II	0.8915655	0.6487432	1.4877079	0.9331635	0.8697157	0.8528587	0.8590158	0.9540244	1.1274678	0.7559599	0.866868	0.7456504	0.8237193
Triphosphatase	1.0734322	1.0431467	1.1236131	0.8210188	0.8520559	0.8374128	0.8210188	0.9540244	1.1274678	0.7559599	0.866868	0.7456504	0.8237193
Phase-1 RCT-171	0.9916583	0.7573277	0.97018355	0.87304884	1.0050968	0.8648878	1.107739	0.7940169	0.96049786	0.85712874	1.0903771	1.126215	1.1821809
Phase-1 RCT-161	0.8621093	0.7573277	0.97018355	0.87304884	1.0050968	0.8648878	1.107739	0.7940169	0.96049786	0.85712874	1.0903771	1.126215	1.1821809
Phase-1 RCT-207	0.7707625	0.7469448	0.8002118	0.91168174	0.8379549	0.76086196	0.8707725	1.0425947	1.336672	0.9779465	0.8644536	1.1068366	1.0718715
Phase-1 RCT-225	1.637163	2.541842	1.620432	1.651556	1.594694	1.488575	2.017878	0.71880384	1.0320528	0.9087565	1.138511	1.1416992	1.072448
Glucokinase	0.8464973	0.6563217	1.3435231	1.3213698	1.1481795	1.371239	1.3385235	0.7729513	1.024571	0.95245104	0.91626615	1.071594	0.8636732
Phase-1 RCT-173	0.78176337	0.6231405	0.8889163	1.1544213	1.068265	0.93715376	0.82325187	0.8517851	0.7750775	0.70441395	1.067198	1.067198	1.067198
3-phosphoglycerate kinase	1.0098607	1.8145205	1.3331455	1.1943817	1.2086265	1.0027827	1.041308	0.80766335	0.98899287	0.9258413	1.0314611	1.0314611	1.0314611
Peroxisomal multifunctional enzyme type II	1.0098607	1.8145205	1.3331455	1.1943817	1.2086265	1.0027827	1.041308	0.80766335	0.98899287	0.9258413	1.0314611	1.0314611	1.0314611
Phase-1 RCT-40	1.141519	1.5901107	1.486858	0.96062035	1.0303238	1.0027827	1.041308	0.80766335	0.98899287	0.9258413	1.0314611	1.0314611	1.0314611
Sentencing marker protein-30	0.8227852	1.8209487	1.160892	0.9429215	1.155522	0.854086	0.5862093	1.4022173	1.011626	1.2825996	0.9957031	1.0076786	1.014501
Cyclin G	0.9304403	0.842847	1.160892	0.9429215	1.155522	0.854086	0.5862093	1.4022173	1.011626	1.2825996	0.9957031	1.0076786	1.014501
Melanoma-associated antigen ME491	1.312546	1.4181051	1.160892	0.9429215	1.155522	0.854086	0.5862093	1.4022173	1.011626	1.2825996	0.9957031	1.0076786	1.014501
Phase-1 RCT-28	0.985089	0.8511767	0.739433	0.926873	0.843356	0.8210958	0.8004304	1.1571168	0.9268906	1.0397706	0.9539039	1.0411754	1.0909855
Alcohol dehydrogenase 1	0.762854	2.073528	1.4454043	1.1956146	1.1687411	1.0694961	0.8214269	0.9694961	0.8214269	0.9694961	0.8214269	0.9694961	0.8214269
Stem cell factor	0.7991865	0.71634376	1.2561315	1.1956146	1.1687411	1.0694961	0.8214269	0.9694961	0.8214269	0.9694961	0.8214269	0.9694961	0.8214269
JNK1 stress activated protein kinase	0.9771726	0.6607116	0.8092219	1.0223559	0.6840234	0.7633085	0.8663395	1.076572	0.9126781	0.7812654	1.0037649	0.839404	0.8011622
Protein tyrosine phosphatase alpha	1.0385554	0.6657197	0.8092219	1.0223559	0.6840234	0.7633085	0.8663395	1.076572	0.9126781	0.7812654	1.0037649	0.839404	0.8011622
Phase-1 RCT-55	1.359906	1.1755967	1.1755967	1.1755967	1.1755967	1.1755967	1.1755967	1.1755967	1.1755967	1.1755967	1.1755967	1.1755967	1.1755967
Ubiquitin carboxylase (RAD 6 homolog)	1.4878061	2.205893	1.6377882	1.6488888	1.7700889	1.3017168	1.4262268	0.75257814	0.9839723	0.9812654	0.7812654	1.244106	1.156659
DNA topoisomerase I	1.0611261	1.8952006	1.3969136	1.2756737	1.3155366	1.2888817	1.0768455	0.8511196	0.8511196	0.8511196	0.8511196	1.219652	1.0182133
Phase-1 RCT-280	1.4110487	1.4506973	1.454229	1.0831802	1.08066	1.1309911	0.9816798	1.1272775	0.9213968	1.1272775	0.9213968	1.1272775	0.9213968
Superoxide dismutase Mn	0.9401471	1.0975928	0.9435795	1.1117284	0.9267624	0.85218705	0.8049145	0.90243727	0.7973308	0.785205	0.854552	1.189184	1.3057603
Beta-tubulin, class I	1.933174	2.3363612	1.672456	1.2911649	1.4282098	1.5306454	1.4037429	0.9238005	1.2237758	0.8261807	1.0768815	1.2368604	1.0458015
Cardiomy phosphatase synthetase I	0.9875365	0.7559912	0.9033586	0.9816287	0.9846136	0.9274577	1.0028544	1.045723	0.8602213	1.0825262	1.0372117	0.959191	0.8751634
Disulfide isomerase zeta	1.9370632	2.019231	0.8543254	1.428658	1.020700	0.9276283	1.117298	1.211239	1.1782478	1.1859727	1.7788303	1.3776893	2.101637
Phase-1 RCT-141	0.7809528	0.8122475	0.8589844	0.81451356	0.780724	0.677676	0.59885128	1.0457047	1.041435	1.0005902	1.0694461	1.0619445	1.1699277
Ribosomal protein L13A	1.2672269	1.4354435	1.1958436	1.0651785	1.1551892	1.014187	1.6140575	0.8505758	0.8066775	0.7315026	0.5187469	0.62054207	0.8118091
Phase-1 RCT-45	0.8555344	0.8388063	0.75412537	0.9687925	0.7569916	0.6571576	0.7011456	1.115933	1.070448	0.8952278	0.9098554	0.9040034	0.9454216
Chun	0.9034101	0.89180823	0.4947094	0.68062	0.549887	0.47763473	0.6898894	1.1655014	1.1333174	0.8168195	1.1970849	1.064776	1.2469491
Protein O-mannosyltransferase 1 (Pomt1)	0.73259246	0.63569807	0.9748744	1.3023512	0.89105334	0.7257141	0.75923955	1.0935788	0.9378938	1.1239696	0.8300073	0.81802467	0.840022
Phase-1 RCT-197	0.8894754	1.0045213	0.8060073	0.925151	0.87826743	0.9038327	0.84206223	0.9168837	0.8984648	0.87394685	0.9271374	0.9074549	0.98556903
Phase-1 RCT-12	1.593326	1.833224	0.8591449	1.001286	1.0988817	1.1304364	1.069848	1.095503	1.2778831	1.3860478	1.3728855	1.4572014	1.745324
Interferon related developmental regulator PRD1 (PC4)	1.804386	1.688845	1.0479334	1.593763	1.3594155	1.6754097	0.7846615	1.0145084	0.83095816	1.0621889	1.0326233	1.1827425	1.2105149
Glucose-regulated protein 78	0.7359792	0.857649	1.4353078	1.599782	1.276228	1.313546	0.762739	0.8491693	0.82639457	1.3121604	1.475288	1.1508926	1.2062666
3-beta-hydroxysteroid dehydrogenase (HSD3b1)	0.35818496	0.781633	0.8858765	0.9745107	0.88275837	0.863231	0.7945429	1.059532	1.380923	1.0215634	1.038705	0.9816207	1.1292716
Caspase 6	1.1181076	0.64881927	0.8763393	0.51485723	0.7601223	0.9086439	1.265718	1.0787144	1.0394231	1.0613164	1.0498644	0.96900494	1.0762878
Phase-1 RCT-169	1.0100639	1.006739	0.72831653	0.8733414	0.6326824	0.8402675	0.9918097	1.0415212	1.049218	1.2352865	1.0782217	1.0739248	1.1294012
Phase-1 RCT-34	0.85589904	0.7197371	1.1397501	0.9509527	0.8399707	0.8616721	0.97622183	1.1307684	1.2582938	0.9021536	0.8324536	0.8470553	1.0355276

Phase-1 RCT-172	0.8964884	0.7644584	0.6987485	0.936699	0.5028922	0.5553944	0.78815025	1.3759011	1.0347912	1.1625687	0.90851295	0.9037745	0.9709576	0.8898485
Protein kinase, muscle	0.92841677	0.6336923	0.9047543	0.936325	0.9328756	1.0181215	0.83624394	0.9331533	1.2481704	1.10882	0.9539346	0.9791765	1.0895656	0.9791765
Phase-1 RCT-288	0.7602559	0.64262285	0.7151828	0.91513395	0.9453078	1.1844393	0.9835933	0.93174304	0.815908	0.815908	0.9248971	0.9370242	0.712772	0.712772
Phase-1 RCT-289	0.8607425	0.64262285	0.7151828	0.91513395	0.9453078	1.1844393	0.9835933	0.93174304	0.815908	0.815908	0.9248971	0.9370242	0.712772	0.712772
Cytochrome P450 2C39 (alternate clone 2)	2.703407	1.3142704	1.1762864	1.1762864	1.1762864	1.1762864	1.1762864	1.1762864	1.1762864	1.1762864	1.1762864	1.1762864	1.1762864	1.1762864
Phase-1 RCT-290	2.060972	1.5371866	1.0744635	1.1695685	0.74775106	0.90233564	0.90233564	0.90233564	0.90233564	0.90233564	0.90233564	0.90233564	0.90233564	0.90233564
Phase-1 RCT-291	0.4630954	0.4977608	0.0773304	1.1628001	1.0834618	0.99248976	0.7332755	1.1537977	1.2688994	1.0872321	1.2118905	1.2372741	0.710337	0.710337
Methylglutaryl-CoA racemase alpha	1.3272946	2.105478	1.6552191	1.3269701	1.4680249	1.3962631	1.3119005	0.8559995	1.0201492	1.5402112	1.5402112	1.0131357	0.7863304	0.7863304
Cytochrome P450 1A2	0.8436375	0.66745025	0.0893978	1.2520905	0.9686363	1.3562611	0.9995139	0.945337	1.087882	1.1229253	0.952434	0.9341866	0.9193688	0.9193688
Phase-1 RCT-287	0.7848915	0.6030763	0.76550676	1.2520905	0.9686363	1.3562611	0.9995139	0.945337	1.087882	1.1229253	0.952434	0.9341866	0.9193688	0.9193688
Monomine oxidase B	1.8255816	1.3874584	1.1054321	1.156332	1.335622	1.589468	1.6554556	0.8301024	0.90842684	0.89282648	1.1384224	1.0283354	1.0283354	1.0283354
Phase-1 RCT-264	1.719352	2.0303407	1.094527	1.094527	1.094527	1.094527	1.094527	1.094527	1.094527	1.094527	1.094527	1.094527	1.094527	1.094527
Peroxisome proliferator activated receptor gamma	0.8528603	1.0430321	1.0643578	0.2538151	0.89438535	0.7232387	0.267369	1.2481704	1.10882	0.9539346	0.9791765	1.0895656	0.9791765	0.9791765
Phase-1 RCT-143	1.350664	1.4863332	1.0260722	1.0260722	1.0260722	1.0260722	1.0260722	1.0260722	1.0260722	1.0260722	1.0260722	1.0260722	1.0260722	1.0260722
Phase-1 RCT-251	0.86422966	0.5608045	1.116351	1.094339	1.184986	1.032104	1.324664	0.9414094	0.9414094	0.9414094	0.9414094	0.9414094	0.9414094	0.9414094
Phase-1 RCT-117	1.3241615	1.08335	0.9661735	1.172112	1.069184	0.7355881	1.0506797	0.9142133	0.9347319	0.9347319	0.9347319	0.9347319	0.9347319	0.9347319
Glutathione S-transferase theta-1	0.8533818	0.89402445	1.1788502	0.8787451	1.0412823	0.8919676	1.203533	0.907408	0.91677634	0.91677634	0.91677634	0.91677634	0.91677634	0.91677634
Phase-1 RCT-81	0.8533818	0.89402445	1.1788502	0.8787451	1.0412823	0.8919676	1.203533	0.907408	0.91677634	0.91677634	0.91677634	0.91677634	0.91677634	0.91677634
Phase-1 RCT-142	0.8533818	0.89402445	1.1788502	0.8787451	1.0412823	0.8919676	1.203533	0.907408	0.91677634	0.91677634	0.91677634	0.91677634	0.91677634	0.91677634
Phase-1 RCT-145	1.1273452	1.2132533	1.2679941	0.993134	1.0592657	0.9475004	0.9475004	0.9475004	0.9475004	0.9475004	0.9475004	0.9475004	0.9475004	0.9475004
Phase-1 RCT-59	1.330476	1.1282814	1.2705606	1.112671	1.0949777	1.2831258	1.249431	0.9917694	0.9917694	0.9917694	0.9917694	0.9917694	0.9917694	0.9917694
Sarcoplasmic reticulum calcium ATPase	1.267693	0.8026229	0.9133468	0.94133468	0.94133468	0.94133468	0.94133468	0.94133468	0.94133468	0.94133468	0.94133468	0.94133468	0.94133468	0.94133468
Alpha-2-macroglobulin, sequence 2	1.6776302	1.0396745	1.1021883	0.9537691	0.870598	1.1371822	0.9455547	0.76215616	0.76215616	0.76215616	0.76215616	0.76215616	0.76215616	0.76215616
Phase-1 RCT-204	1.0434731	1.088005	0.8468773	0.8733005	0.0709085	0.9666277	0.9652254	1.042817	0.9141389	0.9141389	0.9141389	0.9141389	0.9141389	0.9141389
Vascular endothelial growth factor	1.1517438	1.044505	0.8469282	1.0091536	0.92196655	1.0128226	1.0511713	1.1920112	0.95737984	1.1377347	0.9153338	0.9857804	0.9857804	0.9857804
NADP-dependent isocitrate dehydrogenase, cytosolic	1.0436294	1.1470474	1.1978151	1.1521425	1.2737777	1.1481958	1.323988	0.767567	0.8286277	0.8286277	0.8286277	0.8286277	0.8286277	0.8286277
DNA binding protein inhibitor I02	1.1282711	1.193084	1.1103067	1.0714403	1.09508	0.9281937	1.2175328	0.6805302	1.1126077	0.8168384	0.9623937	0.9616874	1.0470159	1.0470159
Glutathione S-transferase Yb	0.8044547	0.7611848	1.2802222	0.933808	1.0237811	0.750239	1.3865036	0.6905184	0.9770447	0.9770447	0.9770447	0.9770447	0.9770447	0.9770447
Epoxide hydrolase	0.8169732	0.7396228	0.5677303	0.7396228	0.7396228	0.7396228	0.7396228	0.7396228	0.7396228	0.7396228	0.7396228	0.7396228	0.7396228	0.7396228
Insulin-like growth factor I	1.4577785	1.7916128	1.0621946	1.022418	1.022418	1.022418	1.022418	1.022418	1.022418	1.022418	1.022418	1.022418	1.022418	1.022418
Prostaglandin H synthase	0.8634302	1.1467684	0.7495987	0.955173	0.7461227	1.089597	0.705602	0.7155895	0.9026503	0.9026503	0.9026503	0.9026503	0.9026503	0.9026503
Phase-1 RCT-135	0.826546	1.0426108	1.1958572	1.1416948	0.93977246	0.9376605	0.6913183	0.9577018	1.0235332	0.9500887	1.041538	1.0231425	0.9862487	0.9862487
Phase-1 RCT-137	1.6135457	2.060941	1.260331	1.0142903	1.2695442	1.2191599	1.3373171	0.59177467	0.7657332	0.84569246	1.1602648	1.1714804	1.0514687	1.0514687
Phase-1 RCT-138	1.3634597	1.2551229	1.0138046	0.9984141	1.295938	1.219563	1.0844938	1.084762	1.0082349	1.088622	0.916019	0.83515366	0.96434057	0.96434057
Helicase	1.2692385	0.96211916	1.3983309	1.2986442	1.470469	1.2915946	1.5285751	0.824398	0.9138849	0.9138849	0.9138849	0.9138849	0.9138849	0.9138849
Phase-1 RCT-164	0.8467115	0.9813027	1.086748	0.9044421	1.2238378	1.1171557	1.2005922	1.040955	0.78688	1.1298984	1.1515739	1.195729	1.195729	1.195729
Acyl-CoA dehydrogenase, medium chain	1.1503515	1.2900552	2.2971532	0.94433516	1.1879975	1.1232819	1.135217	1.005182	1.4685704	1.0916532	1.158207	1.207797	1.1919612	1.1919612
Glutathione S-transferase Yb subunit	0.54394065	1.1638448	1.0815744	0.974206	1.031274	0.74067285	1.0609009	0.7395186	0.7935889	0.7935889	0.7935889	0.7935889	0.7935889	0.7935889
Carbonic dehydratase	0.9061834	0.7165223	0.7456106	0.9057959	0.8774006	0.9028847	0.8412183	1.1205435	0.8633014	1.141594	0.8593689	0.8468866	0.8468866	0.8468866
Phase-1 RCT-166	1.0537877	1.812673	1.1710207	1.195998	1.1631284	1.0596056	0.9078267	0.7810765	1.0247228	0.6953674	1.1796414	1.2981199	1.4103597	1.4103597
Angiotensinogenase	1.3990869	1.860586	1.5153075	1.2433576	1.2433576	1.2433576	1.2433576	1.2433576	1.2433576	1.2433576	1.2433576	1.2433576	1.2433576	1.2433576
UDP-glucuronosyltransferase	1.7855745	3.1045318	1.547155	1.376691	1.116592	1.116592	1.116592	1.116592	1.116592	1.116592	1.116592	1.116592	1.116592	1.116592
Glutathione S-transferase P1	0.6424594	0.80789406	0.8022414	0.86301486	0.86301486	0.86301486	0.86301486	0.86301486	0.86301486	0.86301486	0.86301486	0.86301486	0.86301486	0.86301486
Disulfide isomerase related protein (E7b72)	1.2297828	1.57684	0.8132823	1.0294415	1.0959733	0.90455735	1.1738273	0.7841024	1.1303581	0.8562099	1.0607283	1.0714555	1.1471404	1.1471404
Ribosomal protein L13	1.4376065	1.6692626	1.4532972	1.0294415	1.0959733	0.90455735	1.1738273	0.7841024	1.1303581	0.8562099	1.0607283	1.0714555	1.1471404	1.1471404
Cenodiploin	1.3739243	1.1078981	1.3739243	1.1078981	1.3739243	1.1078981	1.3739243	1.1078981	1.3739243	1.1078981	1.3739243	1.1078981	1.3739243	1.1078981
Inter-alpha-inhibitor H4 heavy chain (IiH4)	1.2212681	2.2283306	1.8075804	2.0454504	1.4787655	1.4189365	1.130623	1.0337192	1.58334	0.866307	1.6181357	1.5066	1.820221	1.820221

Table 28

Phase-1 RCT-3	0.8719014	0.6752765	0.8169384	0.8549821	0.8310048	0.7373769	0.7427034	1.0030544	1.2264663	0.9414655	0.8801112	0.9385567	0.9567227	1.0166568
Fatulin beta (Faihu)	1.2802241	1.87001	1.2659247	0.95522474	1.4290243	1.2166636	1.3055988	1.2048755	0.96252156	0.8874787	1.0286759	1.0588497	0.9967645	1.0763227
3-hydroxyisobutyrate dehydrogenase	1.3094753	1.2694561	1.3773757	1.0435725	1.2571972	1.2719352	1.2719352	0.7636371	0.8171218	0.6518013	1.2705301	1.2705301	1.2504106	0.9343416
Carbonic anhydrase III, sequence 2	0.9134101	2.0507078	1.0309578	0.8881279	1.9243288	1.5975764	1.5620345	1.1133882	0.9167064	1.2169444	0.9026556	0.9713368	0.7490204	0.6133111
Phase-1 RCT-10	1.3700948	1.3141071	1.2435148	1.2457766	1.2458141	1.3172837	1.2101177	0.9387131	0.90019196	1.4413972	0.9811109	1.0633007	1.2457766	0.7675437
Alpha-2-microglobulin	0.8298656	1.698159	1.0847137	0.6416656	1.2515589	0.94755185	1.8482875	1.0684153	0.90019196	1.4413972	0.9811109	1.0633007	1.2457766	0.7675437
Dynactin-1 (D100)	1.2192806	1.264919	1.2107983	1.1176612	1.3426348	1.1176612	1.2944367	0.9549783	0.90019196	1.4413972	0.9811109	1.0633007	1.2457766	0.7675437
U2AF midsize	0.8109777	0.6136956	0.334597	0.9022205	1.1161616	0.85947293	0.99442554	1.3700477	0.8877684	1.2751637	0.8077684	1.0078826	0.9365688	0.8850403
Phase-1 RCT-252	1.807349	2.402902	1.647626	1.2354468	1.4343934	1.664086	1.351013	0.8897821	1.1627455	0.84663304	1.0078826	0.9365688	0.8850403	0.8880225
Phase-1 RCT-29	1.0821835	1.1814607	1.1514568	1.3084675	1.0361987	0.97455394	0.8945066	1.0725221	1.2663336	1.0405946	1.2067576	1.2556564	1.2128914	1.3473879
Phase-1 RCT-278	1.3645263	1.9492475	1.0924875	1.1241323	1.0654632	1.0853566	0.9250989	0.9635659	1.1761605	0.9481934	1.0287168	1.2556564	1.2128914	1.3473879
Phase-1 RCT-42	0.9612843	1.490036	0.786847	1.241323	1.0654632	1.0853566	0.9250989	0.9635659	1.1761605	0.9481934	1.0287168	1.2556564	1.2128914	1.3473879
Phase-1 RCT-25	1.2147675	1.6228507	0.9861189	1.046001	1.0791037	1.009426	1.049161	0.8011683	0.9435005	1.0011942	1.0088236	1.0716022	0.9787685	1.0229066
Cytochrome P450 2C11	1.3892029	1.416681	0.863778	1.004817	0.9589783	0.7066153	0.9803201	0.8742233	1.1274481	0.9317582	1.0402408	0.8635259	1.0689417	0.7016119
Complement factor (CFI)	1.0409594	1.436153	1.3282173	1.3308641	1.3473742	1.3589465	1.2363251	0.8045457	1.0137368	0.9082752	1.3576506	1.0747603	1.2668811	1.1872071
Proliferating cell nuclear antigen gene	1.9419388	1.9341331	1.7591933	0.8950108	0.8159545	0.8066305	0.9227794	1.2937853	0.8287913	1.1640978	0.9136885	0.8528027	0.8103423	0.8103423
Activating transcription factor 3	1.3857287	0.9701731	1.154408	1.297491	1.1226985	0.9317585	0.78459167	0.8702077	0.9051527	1.0263117	1.2581793	1.0313327	1.4241583	0.79168427
Focal adhesion kinase (p212FAK)	1.3911356	1.0130914	0.8324746	1.0970353	1.0671284	1.1737068	1.3821659	0.8681381	0.8717452	0.7822287	0.9433363	0.9350226	0.86074126	0.79168427
Phase-1 RCT-283	1.143574	1.156061	1.3554284	1.1217788	1.2001828	1.1370568	1.3285966	0.98446447	1.0109868	0.91059184	1.0542171	1.0072931	0.9649782	1.1418358
Phase-1 RCT-269	1.5668878	1.334588	0.7834374	0.8839194	0.9331705	1.2385966	1.2249777	1.3653658	1.2041415	0.9807754	0.8333795	0.85554844	0.8290001	0.9437002
Iron-responsive element-binding protein	1.1868817	1.1498272	1.1894493	1.0527458	1.1374741	1.0169282	1.1249777	1.3653658	1.2041415	0.9807754	0.8333795	0.85554844	0.8290001	0.9437002
MHC class II antigen RT1A10 beta-chain	0.42779258	0.54296833	0.7571632	0.9681833	0.6395944	0.7121075	0.6027331	1.5837331	1.2503441	1.1392636	1.1905118	0.92263407	0.801448	0.8955925
ATP sulfurylase	1.9310268	1.434257	1.8265247	1.1218993	1.2502592	1.6692653	1.5837331	1.5837331	1.2503441	1.1392636	1.1905118	0.92263407	0.801448	0.8955925
Phase-1 RCT-171	0.8675757	0.733325	0.881231	0.9338302	1.0009424	0.86738145	1.0564957	1.062709	0.9012298	0.73314637	0.8623333	0.9182331	0.86455067	0.8935938
Phase-1 RCT-43	0.8245955	0.7433325	0.881231	0.9338302	1.0009424	0.86738145	1.0564957	1.062709	0.9012298	0.73314637	0.8623333	0.9182331	0.86455067	0.8935938
Phase-1 RCT-270	1.0903948	1.1445566	1.4926891	1.0451792	1.2079658	1.2088535	1.3416092	0.9041092	0.9502099	1.0571306	0.8544738	0.6962595	0.9053668	0.7447391
Colony-stimulating factor-1	1.1212391	1.1506716	1.150774	1.2607093	1.2495036	1.2104198	1.3696338	0.8677008	0.8677008	0.9431523	1.0215753	1.0300275	0.9800738	1.116445
Phase-1 RCT-62	0.962878	0.9015904	0.9285397	1.0360582	0.97493146	0.8714666	0.84973425	1.000052	1.4864786	1.0469228	0.92412716	1.0411748	0.8228231	0.9885549
Phase-1 RCT-22	0.9313862	0.7675747	0.9473841	0.8265324	1.0685953	0.8429693	1.1193863	0.9821584	1.0807717	0.9807717	0.9807717	0.9807717	0.9807717	1.2008921
AT-3	0.9077576	0.8395485	0.8713904	1.0777836	1.0355065	0.8713904	0.8493921	1.0457088	0.9279123	1.1611369	1.1031704	0.9898498	1.0186012	1.0215601
Phase-1 RCT-18	0.8832683	0.8160528	0.8068411	0.8501606	0.8949907	0.9495294	0.8574735	0.8748558	0.9155978	0.8922961	0.89764076	0.8787361	0.8876132	0.93115797
Phase-1 RCT-56	0.962006	1.0249429	0.7607854	0.90225613	0.91103965	0.8430084	1.0834174	0.9727401	1.0715858	1.0348393	0.9779226	1.089724	0.91115797	1.1643823
Equilibrative nucleoside transporter	0.8563785	0.8614269	0.8068411	0.8153412	0.8950926	0.8994102	1.2377571	0.83005704	0.7641416	0.8881701	0.90572804	0.98629754	0.79613787	0.8583566
Glucose transporter 2	0.92349765	0.8012118	1.0538687	1.3476316	0.8047159	0.8382263	1.0847353	1.1024265	0.9504385	1.2355384	0.9421945	0.95030504	0.773038	0.8583566
Multidrug resistant protein-2	1.1486478	1.1094857	0.8566454	1.0017657	0.71132654	1.1167126	1.3782572	1.3782572	0.9222869	1.2510734	1.0185408	0.9867887	0.91780045	1.0745374
Multidrug resistant protein-1	0.96528757	0.9473273	1.160759	0.9601741	0.7923429	1.1376871	0.7303475	1.3454603	1.7161854	1.2407064	0.9916628	0.9740811	1.0101204	1.2810079
Phosphatidylinositol-binding protein	0.8674455	0.9158802	1.1637789	1.2492301	0.9177801	0.9256471	0.7287727	1.1429607	1.5003207	0.8461689	1.1057616	1.0902412	1.0848788	1.0659638
Phase-1 RCT-180	1.1576403	1.019712	1.169341	1.161013	1.1258944	1.2363382	0.9016507	1.0518327	1.3159133	0.9953854	1.2767365	1.118752	0.9976603	1.2694622
Integrin beta-4	0.8500916	0.6281672	0.9883165	0.9712826	0.8427226	0.7780167	0.6306737	1.132319	0.95419284	1.137621	1.0233933	0.86185017	0.9904998	1.0989622
NAD(P)H cytochrome P450 oxidoreductase	0.9174717	1.091524	0.7434956	0.8948601	0.7057843	0.5861417	0.8288219	1.5557448	1.1617632	1.0528738	0.964665	1.027509	1.0734352	1.020664
Wdr1	1.9803123	1.4088452	0.7624358	0.9858094	0.8941272	0.7807517	0.8287126	1.1536328	0.9341785	1.1173491	0.9143765	0.92119694	0.82664	0.9833333
Endogenous retroviral sequence, 5' and 3' LTR	0.7535585	0.7396435	0.7950645	0.7923505	0.5524622	0.8288544	0.82413738	0.8081284	1.0680732	0.7756577	0.8035555	1.0254456	0.8033349	0.6662571
Phase-1 RCT-53	1.2707925	1.4288716	1.0360342	0.91332	0.9379257	0.8288544	0.82413738	0.8081284	1.0680732	0.7756577	0.8035555	1.0254456	0.8033349	0.6662571
Phase-1 RCT-54	1.0628599	0.7218317	0.8827721	0.8976095	0.9833105	1.0453833	1.0630121	0.8450333	0.8116863	1.0723473	0.8853064	0.9312242	0.8725562	0.9175526
Osteonin	0.7810873	0.56679065	0.9571992	1.136987	0.8191687	1.0940728	0.812453	1.2516133	0.6056536	0.858193	0.8942525	1.0461826	0.9537476	0.7589397
Phase-1 RCT-240	2.2395082	2.3402185	1.2530782	1.0980858	1.084106	1.1616181	1.0940728	0.812453	1.2516133	0.6056536	0.858193	0.8942525	1.0461826	0.9537476
Organic anion transporting polypeptide 1	1.056722	0.73392844	1.0722378	0.88178914	0.76889766	0.6333056	0.6284542	1.6819478	1.157278	1.157278	1.157278	1.157278	1.157278	1.157278
Phase-1 RCT-241	0.80867433	0.87740415	0.84145575	1.0271144	0.98408777	0.81685465	0.86984307	1.0136344	1.0477456	1.0032981	1.3117841	1.0819718	1.0317837	1.3617034
Tissue factor pathway inhibitor	1.2583307	1.1556181	1.0391802	1.152917	1.087172	1.0362277	0.9414009	0.9063368	1.0786034	1.3328459	1.061179	1.0022012	0.986783	1.2770554
Cyclin-dependent kinase 4 inhibitor P27kip1 (alternates)	1.0925272	0.84062034	1.410548	1.6339346	1.023874	0.508283	0.7626615	0.97607536	1.2420077	1.1377441	0.75924915	0.84600043	0.77319928	0.86582583
Phospholipase D	0.464501	0.63405465	0.84019085	0.36074203	0.508283	0.7626615	0.97607536	1.2420077	1.1377441	0.75924915	0.84600043	0.77319928	0.86582583	0.86582583
Phase-1 RCT-38	0.960573	0.7186321	0.7834398	0.85236105	0.6764264	0.8060407	1.0402887	1.3835014	1.1324729	1.0541834	1.0541834	0.9681107	1.1393917	1.0539778
Phase-1 RCT-258	0.9808573	0.9831447	1.0519596	1.1169324	0.9533182	0.7675894	0.74975894	0.9851241	1.0427383	1.0023911	1.0745571	1.0158377	1.2263172	0.9148685
Phase-1 RCT-113	0.76396877	0.8537632	1.076572	1.0653589	1.0176572	1.0653589	1.0053589	0.9210098	0.9768977	0.8768977	0.9616803	0.931089	0.931089	0.931089
Adenine nucleotide translocator 1	0.80744684	0.85257088	1.2100217	1.0983935	1.057175	1.1601161	0.7423053	0.9768977	1.0689512	1.0078987	1.0078987	1.0078987	1.0078987	0.8734237
Alpha-1 acid glycoprotein	4.439916	1.184698	1.429752	1.2293988	1.8804938	1.4224741	2.9034043	1.932294	3.3139992	2.1955988	2.234238	2.171777	5.74953	5.74953
MHC class II antigen RT1.B-1 beta-chain	0.5496104	0.50686483	0.69753355	0.6378044	0.82682153	0.77884271	1.2048787	0.9756486	0.92684175	0.8431886	1.0397598	1.0397598	1.0397598	1.0397598

Organic cation transporter 3	1.9435028	1.4173448	1.0096251	1.0687086	1.1920172	1.2287734	1.2198074	0.7084058	0.99867134	0.85455906	1.1509087	1.125761	1.0611459	1.5157013
Hypoxia-inducible factor 1 alpha	0.9126284	0.5216578	0.7798134	0.9327847	0.9546215	1.0939548	1.0771381	0.8900617	0.9900617	1.0801255	0.9421696	0.9663511	0.9208431	0.9626723
Phase-1 RCT-43	0.9205094	0.6701385	1.182464	1.0453371	1.0132847	1.0268285	1.2245867	0.8627787	1.1851089	0.9212502	0.916203	0.8742935	0.9384964	0.8243379
Phase-1 RCT-45	0.71097124	0.5845181	0.78534615	0.86276406	0.89352855	0.91803273	0.84130454	0.9562561	1.0488483	1.0162268	1.041707	0.8371233	0.94303403	1.040805
Mutase dehydrogenase, cytosolic	2.4914646	2.2024167	1.3029692	1.156894	1.2115399	1.2458149	1.278126	1.0281218	0.9284128	0.9602873	1.0599607	1.1729221	1.1528748	0.920809
VL30 element	0.8330401	1.5251584	1.2661577	0.98589915	0.8684678	0.65811583	1.0339329	0.79553145	0.9694895	0.90755083	0.9535677	1.1726062	0.8280835	0.83778495
Phase-1 RCT-169	1.9821689	1.5108743	1.5608024	1.2336976	1.5221268	1.2031628	1.4402955	1.0084114	1.0630404	0.9528013	1.0843554	1.0088615	0.9235835	1.0374253
Alpha-fetoprotein	0.99918306	0.6507394	1.0280758	0.8303582	0.7052377	1.0746402	1.2074784	0.98100203	1.0295177	0.76543087	1.1313368	1.1794803	1.2160883	0.71899015
Calgranulin B	1.8123868	2.2834697	1.6321498	1.2048163	1.3470445	1.2065365	1.249592	0.81873857	1.084478	0.78761923	1.0358759	0.9883143	1.1221168	1.0275971
Tissue plasminogen activator	1.2457328	1.0814753	1.2241411	1.2889227	1.0697953	1.0824283	1.0107511	1.047135	1.1086318	0.9024543	1.005767	1.0534416	0.857667	0.86819774
Phase-1 RCT-195	1.2735231	1.368836	0.56341703	0.8713243	1.1397182	1.0171932	1.7145325	0.6682353	0.9258212	0.87509125	1.2201571	1.1275752	1.1637158	1.1835684
Liver fatty acid binding protein	1.5265242	1.9282435	1.9010815	1.2947071	1.4872898	1.0739211	0.7037779	0.98285346	1.0770204	0.8888501	1.1754105	1.2348591	1.3520682	0.9632812
Alpha-1 microglobulin/bikunin precursor (Amp)	0.8238478	0.6765473	0.198889	0.87427837	0.7458273	0.7538211	1.0374317	1.1405066	1.3191522	1.0113878	1.037078	1.0498581	1.0365332	1.2781514
Phase-1 RCT-151	0.87615764	1.1324193	1.0501075	1.0579021	1.1804786	1.0792055	1.2703807	0.8347601	1.2746607	0.89242508	0.78231514	0.8195989	0.902517	1.0863505
Phase-1 RCT-221	0.8599769	0.629284	0.72346425	0.9883364	0.7882445	0.8554878	0.68918574	0.99154437	1.152408	1.0572858	1.0933296	0.99417215	0.902517	1.0863505
Phase-1 RCT-235	0.9760755	0.75049734	0.950289	0.8291877	0.9242295	0.985668	1.0240872	0.9375747	1.2107277	1.0282974	0.8643346	0.8871032	0.7958452	0.8204901
Organic anion transporter 3	0.8121159	0.65013903	1.091432	0.8974137	0.6658453	0.6889242	0.8848023	1.4125377	1.1905576	1.2123615	0.96436814	1.0058602	1.0705271	0.9450047
Matrix metalloproteinase-1	0.81534785	1.0341309	1.3212502	0.8954585	1.2021214	1.424415	1.3794849	0.7562667	0.87159843	0.8821512	1.0250927	1.1596609	1.0747011	1.0295709
Urinary protein 2 precursor	1.6152259	1.8535622	0.8755273	0.83843366	1.2042204	1.1376203	1.9768994	0.5765944	0.6756949	0.7863378	1.2072707	1.31891	1.3157353	1.0440644
Phase-1 RCT-212	1.130138	0.9721132	0.7315075	0.8424638	0.59629184	0.854425	1.0236936	0.8733825	0.7228772	0.8517733	1.0374904	0.9653602	0.86214837	1.0986416
(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 18).														
(2) Compound and dose abbreviations as in Table 1.														
(3) Individual animal number														
(4) Liver inflammation classification for compound-dose group at 72 h: yes-nec, necrosis observed; yes-bi, necrosis with inflammation observed; no, no bi; pathology observed														
(5) Predictive gene (as in Table 18 and as included in Table 28)														

Table 28

Table 2B. Expression Data for 6 Hour Timepoint (1)														
Compound-Dose (2)	GAN 200	GAN 200	GAN 38	GAN 38	GAN 38	GAN 222	GAN 222	GAN 222	GAN 222	GAN 222	GAN 222	GAN 222	GAN 222	GAN 222
Animal Number (3)	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	1.2374921	0.91735635	1.822687	1.452451	1.418425	1.0239638	1.0873212	0.9726707	1.2437371	0.99561495	0.3317171	0.7283251	1.1073048	1.6135948
Insulin-like growth factor binding protein 1	0.8373388	0.9546536	1.0703622	1.1456681	1.116924	1.0480762	1.0480762	0.9956725	1.0137774	1.0955021	1.2753471	1.8127629	1.3033437	1.2639816
Gadd153	0.15157576	0.9838143	1.0003286	1.0003286	1.0003286	1.0003286	1.0003286	1.0003286	1.0003286	1.0003286	1.0003286	1.0003286	1.0003286	1.0003286
Gm1	1.4009038	1.008331	0.9591495	1.0096685	0.9697488	0.974451	0.9436435	0.97591704	1.192056	1.1551942	1.1605475	1.2616939	1.046464	1.0188811
NRK	1.6697217	1.6290331	1.3454684	0.796142	1.1159152	0.8537835	0.3143045	1.1194373	0.3249791	0.81057245	0.6063755	0.7438953	0.9303828	1.4262623
Carnitine 1, sequence 2	1.4650339	2.0376221	1.0059239	1.0382934	0.9394849	1.068095	0.950439	0.950439	1.1943204	0.9953121	0.9568135	0.9863425	1.01628	1.0609666
Heme oxygenase	1.4730349	1.442	1.2715692	0.8716804	1.0551684	1.0914787	0.9753718	1.0201967	0.8593041	0.7179077	0.6982021	0.7183949	0.7057405	0.9384932
Phase-1 RCT-109	0.7329635	0.8990381	0.8297273	0.6549847	0.6591472	0.6259423	0.7006911	0.81985756	0.9120102	0.7280587	0.6458891	0.8514545	0.7057405	0.9384932
Phase-1 RCT-111	1.3358939	1.0070518	1.6717558	0.891394	1.1402718	0.901285	0.9884655	0.91985756	0.4800111	1.695163	0.96387368	1.325439	1.0235422	0.8991777
Argininosuccinate lyase	1.3940769	1.2479088	1.2530313	0.999557	1.1104017	0.9848655	1.0251644	0.7804821	0.9898269	0.8044097	0.8764523	0.9527652	1.0888069	1.041471
DNA polymerase beta	0.7867462	0.264035	0.8054377	0.6280024	0.85705717	0.5891383	0.8991843	0.7804821	0.8956784	0.8764523	0.9527652	1.0888069	1.041471	1.041471
Phase-1 RCT-103	1.2246751	1.5300837	1.050906	0.8454512	1.0456222	0.9874271	1.166127	1.4541751	0.6685941	0.7350516	0.8314453	1.0265574	0.8233365	1.2350039
Ribosomal protein S9	1.0678983	1.440423	0.9531116	0.9254271	0.9554271	0.9512395	0.9049335	0.9500867	1.1923321	1.0265574	0.8314453	1.0265574	0.8233365	1.2350039
Phase-1 RCT-114	1.1548796	1.3877597	1.1249109	0.9284031	1.1265934	0.8420395	1.084207	0.9902706	1.2607885	1.4787289	1.4840046	1.7098378	1.0844662	1.2935307
Phase-1 RCT-15	1.6157172	1.699052	1.4845176	1.152255	1.3557	0.9761956	1.1073238	0.93628075	1.2998276	1.2100837	1.0129354	1.5168259	1.2223586	1.2223586
Macrophage inflammatory protein-2 alpha	1.3210475	1.103287	1.1873313	0.9874322	1.0158358	0.9874322	0.9874322	0.9874322	0.9874322	0.9874322	0.9874322	0.9874322	0.9874322	0.9874322
Protein (P3)	0.9682885	1.011663	1.0680014	0.7624953	0.959707	0.9742605	0.8236854	0.9164657	2.2844381	1.5189147	1.201248	1.805149	0.8954074	1.1753282
Phase-1 RCT-191	1.1007444	1.1207656	1.0216151	1.3724372	1.1463947	1.235918	1.049057	0.9232354	1.047835	1.3221132	1.749408	1.414784	1.1270219	0.919763
Phase-1 RCT-65	1.7036264	1.5917021	1.0283204	1.3083695	1.1138513	1.1201898	1.0240033	0.9355209	1.2555765	1.2994953	1.3084448	1.4531631	0.9869545	1.0002888
Cytidin D3	0.7139431	0.9272065	0.80376846	0.6872617	0.6903156	0.6955577	0.77849864	0.8878148	0.7287417	0.86709366	0.6254117	0.90176554	0.76894884	0.98470724
Phase-1 RCT-108	1.3295865	1.5551972	0.89426466	1.028586	0.88811547	0.8976712	0.8892263	0.9240911	1.2640911	0.60352147	0.86709366	0.6254117	0.90176554	1.2095902
Phase-1 RCT-56	1.2196657	1.2250346	0.9750102	0.812385	1.2161963	0.962627	0.962627	0.962627	1.2457478	1.6057026	0.9998338	0.404027	0.97031945	0.9521316
Phase-1 RCT-192	1.3787688	1.2327305	0.985637	0.93154573	0.9070388	0.8875403	0.905825	0.9916016	1.3885722	0.8868075	0.8976518	1.0570194	0.88819827	1.1892264
Aspartate CoA carboxylase	0.960213	0.744401	0.81776536	0.8269671	0.8569676	1.1247568	0.9208005	0.8100843	0.9283855	1.1893504	1.2019167	0.96651105	0.86050953	0.8635459
Phase-1 RCT-65	0.7934523	0.9284553	0.8216327	0.8269671	0.8569676	1.1247568	0.9208005	0.8100843	0.9283855	1.1893504	1.2019167	0.96651105	0.86050953	0.8635459
Cystatin C	0.7530071	0.8294535	1.0789163	0.9626431	0.9010889	0.85916955	0.9208005	0.8100843	0.9283855	1.1893504	1.2019167	0.96651105	0.86050953	0.8635459
Phase-1 RCT-49	1.2325155	1.4077051	1.0561196	1.2530865	1.0018728	0.9738274	1.0010889	0.85916955	0.9208005	1.1893504	1.2019167	0.96651105	0.86050953	0.8635459
Phase-1 RCT-9	1.1852394	1.2037744	1.3622492	1.4427084	2.524728	1.003848	1.2688819	1.0145578	1.755212	1.3067504	0.8810078	1.1171913	0.8914433	0.9312017
Phase-1 RCT-156	0.7832739	0.9050026	0.9595004	0.7033794	0.8543956	0.6653117	0.7432397	0.8453557	0.86554864	0.6817534	0.7381627	0.989724385	0.71096754	0.95957433
Phase-1 RCT-156	1.5925514	1.3429972	1.0960857	0.9532349	1.0087616	0.7178115	0.9250956	1.172045	0.8827394	0.7381627	0.989724385	0.71096754	0.95957433	0.95957433
Collin	1.5430443	1.8532118	1.0617263	1.1595663	1.1824238	1.2713389	1.06388	1.0188743	0.8118038	0.90673167	1.0234084	1.1815073	1.471295	1.132567
Phase-1 RCT-127	1.0190309	1.0054972	1.1653976	1.3789805	1.1824238	1.2713389	1.06388	1.0188743	0.8118038	0.90673167	1.0234084	1.1815073	1.471295	1.132567
Macrophage inflammatory protein-1 alpha	1.1754973	0.9193807	0.8431788	0.8963618	0.9058603	0.89388756	0.935967	0.9495076	1.3083564	1.448353	1.372833	1.2270491	0.9846027	0.8800001
Zinc finger protein	1.1273853	1.1442189	1.0912493	1.0236672	0.9782122	1.0083344	1.051329	1.368223	1.388394	1.3744589	1.0178479	1.6033671	1.2716469	1.081763
Phase-1 RCT-73	1.2687559	1.3409814	0.92511743	0.85408846	0.9724679	0.88638843	0.842947	1.0476013	0.8948163	0.8208224	0.88557715	0.6592019	0.8890682	0.80765357
Glutamine synthetase	2.1333423	1.820132	0.1656678	1.060791	1.0450768	1.3973559	0.7723426	0.85843426	1.0716011	0.7076976	1.2457002	1.4125148	0.9836266	0.8815243
Cal-binding protein	1.2087405	1.220438	0.8708333	1.1412474	1.0450768	1.3973559	0.7723426	0.85843426	1.0716011	0.7076976	1.2457002	1.4125148	0.9836266	0.8815243
Phase-1 RCT-242	1.0595881	1.1551828	0.89854285	1.1359861	1.0054073	0.8405158	0.7723426	0.85843426	1.0716011	0.7076976	1.2457002	1.4125148	0.9836266	0.8815243
Phase-1 RCT-50	1.4940594	1.328736	1.1254094	0.8172474	0.8605086	0.8405158	0.7723426	0.85843426	1.0716011	0.7076976	1.2457002	1.4125148	0.9836266	0.8815243
Elongation factor-1 alpha	1.0538571	1.20195	1.44134	1.1535563	1.2039816	1.261422	0.8742668	0.8710573	1.1434534	0.8864291	1.0025735	0.8802101	0.98868495	1.3528446
Insulin-like growth factor binding protein 5	1.0534483	1.045126	1.0250069	0.8488468	0.947083	1.293916	0.8742668	0.8710573	1.1434534	0.8864291	1.0025735	0.8802101	0.98868495	1.3528446
Phase-1 RCT-59	1.1838737	1.2408333	1.0570716	1.0216776	1.196861	0.91341978	1.121657	0.81707438	0.8571282	1.1434534	0.8864291	1.0025735	0.8802101	0.98868495
Phase-1 RCT-76	0.8319063	0.8319063	0.8766589	0.6955947	0.70240146	0.8381338	0.95091496	0.7886209	0.7177892	0.64883094	0.5601555	0.8442436	0.7488908	0.9725808
Ferritin H-chain	1.3416598	1.2259558	1.2004838	0.9491485	1.175558	0.7677002	0.9268376	1.1367549	0.9531944	0.8255013	0.6517874	0.5501722	0.7685556	0.9094005
Selenoprotein P	0.88232505	0.9627032	1.0043063	1.0401986	0.95126384	1.3777752	1.2467723	0.9289917	0.7846725	0.86489138	0.5458288	0.8415313	1.0689006	0.88118175
PEN1/IMAC1	0.7885088	0.901497	1.1836127	0.84537196	1.0078163	1.1546927	1.170553	1.2482015	1.1651486	1.0544091	1.2103317	0.8806194	0.9916986	0.87390006
Phase-1 RCT-214	0.8202754	1.0320655	0.7826167	1.0188853	0.87510467	1.0233942	0.9816974	0.96903584	0.74288686	1.0342925	0.9720757	1.202865	0.97168403	0.96168403
Phase-1 RCT-112	1.0628692	0.8208955	1.210347	1.5056053	1.1346173	0.951673	1.367701	0.97175085	0.58628297	0.7755522	0.7755522	0.8246187	0.75806373	1.1448325
Thymidylate synthase	2.1276322	1.411781	1.02073	1.1415104	1.316165	1.0809635	0.9686428	0.9686428	1.310537	1.305313	1.4202547	1.772687	0.628024	0.93326225
Phase-1 RCT-156	0.7465524	0.8565524	0.8479468	1.138535	1.316165	1.0809635	0.9686428	0.9686428	1.310537	1.305313	1.4202547	1.772687	0.628024	0.93326225
Nucleosome assembly protein	0.76106703	0.8111544	1.1228935	1.9491255	1.092882	2.050953	1.250733	0.97133051	0.5313051	0.5313051	0.5313051	1.4202547	1.772687	0.628024
Cholesterol 7 alpha-hydroxylase (p450 VII)	1.178115	1.3751683	0.8571286	1.253109	0.853364	1.3976017	0.9297868	1.0548142	0.908833	1.3544297	1.5106878	1.2033975	1.4504481	1.003312
Vesicular monoamine transporter (VMAT)	0.92570436	1.114417	0.7407618	1.1083028	0.8910274	1.1860604	0.9424736	0.73159526	0.7945753	1.089718	0.9591414	0.9456884	1.428423	0.9673759

Phase-1 RCT-32	1.196746	1.2395159	1.1989712	1.03237769	1.0010873	1.0014746	1.15703971	0.978622	1.0075728	0.9459346	0.9213794	1.303126	0.9830314	1.177655
Endonuclease assembly factor 1	1.1720834	1.284778	1.2760943	1.159461	0.907668	1.3870784	1.1424286	0.854521	1.0075728	0.9459346	0.9213794	1.303126	0.9830314	1.177655
Proteinase-1	0.95271234	0.9175338	1.1316018	1.151538	1.045135	1.5996459	1.1468529	0.9990694	0.96971244	1.3748759	1.6851754	1.6044257	1.065558	1.041436
Phase-1 RCT-42	0.9540282	0.9880894	0.9084721	1.1054045	0.94766766	1.523524	0.93521346	0.9520845	0.79524126	1.1746652	0.97143178	0.9330591	0.918992	0.918992
Matrix P/G	0.9019627	0.9019627	0.9019627	1.0014963	1.0639339	0.78728927	0.7928385	0.91904116	1.3078	1.1695926	1.1442628	0.7502303	0.8123623	0.819239
Phase-1 RCT-184	0.9517713	1.0891445	0.9880201	0.73948437	0.7474343	0.7928385	0.8130165	0.8936562	1.2265077	1.159039	1.1020753	0.9588018	0.819239	0.819239
Phase-1 RCT-188	0.9543259	0.6575436	0.8280131	0.8207069	0.6704248	0.8207069	0.8130165	0.8936562	1.2265077	1.159039	1.1020753	0.9588018	0.819239	0.819239
Phase-1 RCT-119	0.9543259	0.6575436	0.8280131	0.8207069	0.6704248	0.8207069	0.8130165	0.8936562	1.2265077	1.159039	1.1020753	0.9588018	0.819239	0.819239
Carbonic anhydrase II	0.70180555	0.5225433	0.658158	1.0073024	1.085626	1.0011479	1.20963519	0.8094332	1.3736766	0.9851902	0.9485059	0.9738474	1.263033	1.263033
Tryptophan hydroxylase	0.95379805	0.8597516	0.203127	0.9357161	0.8995578	0.6824432	0.811842	1.4628892	2.4504272	2.109969	1.42548	1.524219	1.058815	1.071101
Phase-1 RCT-71	1.220166	0.9674739	0.9674739	0.9292159	0.9683361	1.252185	1.0717653	0.934326	1.253881	1.209969	1.209969	0.9165316	0.9716604	0.9716604
Phase-1 RCT-179	1.1790123	1.8947789	0.818946	0.9276814	0.959707	1.1610465	1.1935638	0.8541333	1.21768107	0.777395	0.87163174	0.9504180	0.9716604	0.9716604
Phase-1 RCT-161	0.83434246	0.5748706	0.702192	0.9276814	0.959707	1.1610465	1.1935638	0.8541333	1.21768107	0.777395	0.87163174	0.9504180	0.9716604	0.9716604
Phase-1 RCT-207	1.1171287	1.4623346	0.9612557	0.9808118	1.0953532	1.2187116	1.3824451	0.936559	1.2328977	1.2365559	1.2607719	0.9249013	1.1944367	1.1944367
Phase-1 RCT-144	1.1873355	1.4817443	1.0074972	1.0231063	1.0373296	1.1441689	0.9733074	0.846618	1.091169	1.091169	1.091169	0.9249013	1.1944367	1.1944367
Phase-1 RCT-425	0.80920464	0.8523626	1.2118	0.83400258	0.8204924	0.871703	0.7195413	0.808118	0.711036	0.508118	0.5834450	0.7416675	0.9323801	0.9323801
Cytochrome P450 2E1	0.9480705	1.1784388	0.9880014	0.9842833	1.0643351	0.9433018	1.0509192	0.8473623	0.8977693	0.6994788	0.8354536	1.2094638	1.04685	1.04685
Phase-1 RCT-173	0.8438432	0.9187312	0.923914	0.89742284	0.9345567	1.0728318	1.040487	1.0301312	1.5628915	1.572838	1.774998	1.367496	1.082106	1.082106
3-methyladenine DNA glycosylase	0.93789494	0.2678522	0.9002508	0.8465015	0.8465015	0.8465015	0.8465015	0.8465015	0.8465015	0.8465015	0.8465015	0.8465015	0.8465015	0.8465015
Provisional multifunctional enzyme type II	1.4941548	1.2678522	0.9002508	0.8465015	0.8465015	0.8465015	0.8465015	0.8465015	0.8465015	0.8465015	0.8465015	0.8465015	0.8465015	0.8465015
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706754	0.9059208	1.1405933	0.65548607	0.68638194	0.97375655	0.79041123	0.79041123
Phase-1 RCT-40	1.0897123	0.8019259	1.0200988	0.9136771	0.9152717	1.0184688	0.8706							

Table 28

Phase-1 RCT-72	0.88176815	1.1665903	0.92995665	1.0890157	0.82763726	1.2357693	1.0064553	1.0053513	0.82089385	1.0230335	1.021149	0.980335	1.4632838	0.9735293
Proteinase	0.10164696	0.5672717	1.1897540	0.91934006	1.0469567	0.90268217	0.9473726	1.5348011	1.3501081	1.3501081	1.3501081	1.3501081	0.98447645	1.2129198
Phase-1 RCT-280	0.6221221	0.9853363	1.0639063	0.8677204	1.0894987	0.8407424	1.1863837	1.287232	0.7009492	0.7009492	0.7009492	0.7009492	1.441054	0.94294566
Phase-1 RCT-90	0.8734744	1.0004029	0.8288634	1.244173	0.8765656	0.9841796	0.931398	1.91104176	0.931398	1.91104176	1.91104176	1.91104176	0.9737948	1.041054
Oxycodone P450 2C39 (alternato done 2)	1.2475604	0.9900629	1.6211866	1.1976819	0.7698134	0.64629763	0.5965403	1.7110575	1.0033817	0.8799314	0.4522712	0.4522712	0.9673948	0.8211602
Phase-1 RCT-200	1.2836824	1.0976901	0.7903579	0.7439342	0.8372689	0.8817108	0.8438154	0.9530376	0.8083476	1.2540697	1.951687	1.951687	1.0670385	1.1637245
Phase-1 RCT-261	1.4311291	1.3009963	0.8187124	0.9171408	0.9723925	1.0548334	0.9854958	3.1241665	3.0046972	2.708081	2.8223045	2.8223045	1.1645656	1.1645656
Metoprolol-5- α -reductase alpha	1.7391283	0.1723446	1.0846016	0.9453175	1.0684575	0.6805023	0.9854958	1.0933633	1.0741146	0.6799033	0.9416157	0.9416157	0.6449277	0.8448833
Phase-1 RCT-262	0.95348376	0.8722348	1.0020881	1.1288853	0.9643303	1.3350617	1.1849205	0.9503993	0.6116194	0.73617204	0.73617204	0.73617204	1.4296617	0.9418945
Cytochrome P450 2A7	0.9321806	0.8722348	1.0020881	1.1288853	0.9643303	1.3350617	1.1849205	0.9503993	0.6116194	0.73617204	0.73617204	0.73617204	1.4296617	0.9418945
Phase-1 RCT-267	0.9321806	0.8722348	1.0020881	1.1288853	0.9643303	1.3350617	1.1849205	0.9503993	0.6116194	0.73617204	0.73617204	0.73617204	1.4296617	0.9418945
Microsomal oxidase B	0.9857375	0.81600446	1.1375813	0.9868216	1.2335662	0.8691234	0.9567178	1.731787	0.7405904	0.8202682	0.8202682	0.8202682	1.0637581	1.085498
Phase-1 RCT-264	0.72406314	0.7121566	0.9314406	0.8180205	0.94064025	0.84064025	0.9020337	1.973187	0.7405904	0.8202682	0.8202682	0.8202682	1.0637581	1.085498
Peritoneal proliferator activated receptor gamma	1.2275014	1.1832994	0.9745204	0.8180205	0.94064025	0.84064025	0.9020337	1.973187	0.7405904	0.8202682	0.8202682	0.8202682	1.0637581	1.085498
Phase-1 RCT-143	0.69286764	0.9529679	0.9722457	0.83693474	1.1461583	1.2271878	1.023552	1.033243	0.9885827	1.002824	1.002824	1.002824	0.931398	1.018458
Phase-1 RCT-251	0.9356481	0.8910481	1.2408325	0.9170966	0.7207394	1.0934065	1.064765	1.2426243	1.033243	0.9885827	1.002824	1.002824	0.931398	1.018458
Phase-1 RCT-117	0.7341485	0.76357818	1.1664082	1.189474	0.9815319	1.0497767	1.040308	1.2426243	1.033243	0.9885827	1.002824	1.002824	0.931398	1.018458
Glutathione S-transferase theta-1	1.17538	1.1664082	1.189474	0.9815319	1.0497767	1.040308	1.2426243	1.033243	0.9885827	1.002824	1.002824	1.002824	0.931398	1.018458
Phase-1 RCT-61	0.7791078	0.7759406	0.90472	0.8801826	0.8479676	0.831878	0.97765497	0.89127904	1.01414	0.8803078	0.9288028	0.9288028	0.9288028	1.018458
Phase-1 RCT-148	1.0991025	1.0400406	1.1459318	0.80356536	0.9656273	0.81829187	0.9738154	1.2601588	0.71797585	0.64008003	0.57644395	0.5981607	0.92573343	1.018458
Phase-1 RCT-142	0.8943711	0.9053154	0.8694565	1.0722688	1.11857	1.3152018	1.4922833	0.97048685	1.337465	1.3113958	1.1069573	1.3744705	1.1197052	1.230245
Actin receptor type II	1.3384199	0.8915835	0.8944831	0.53447358	0.89732256	0.6739791	0.7696514	0.71087736	1.3035159	1.1379246	0.67718459	1.0873483	1.0437286	1.302465
Glycine methyltransferase	0.7601332	0.8222564	1.0815968	0.6561805	0.67185815	0.6434367	0.8112011	0.9446306	0.9744575	0.8205568	0.6798019	0.92232476	0.77587164	1.0885769
Phase-1 RCT-281	1.0577998	1.1023385	1.3077296	1.2042325	0.97768074	1.2746613	1.0324101	1.0345201	0.5461301	0.8107736	0.65583986	0.6960717	1.1844849	1.0565144
Ciliary neurotrophic factor	0.6204586	0.6167365	0.8903794	0.593403	0.7667095	0.6117091	0.7428419	0.9074494	0.932431	0.5786373	0.7953983	0.5850324	1.0576685	1.0576685
Gap junction membrane channel protein beta 1 (Gp11)	1.010259	1.0829846	0.8237366	0.9379815	1.0146397	1.0949527	1.3395832	0.92318785	0.6368085	0.71269494	0.8410026	0.8392332	1.0805261	0.9790688
Phase-1 RCT-26	1.1337278	1.1347337	0.9345578	0.8113872	0.8973574	0.8908533	0.9309655	1.0203444	0.78565025	0.7270374	0.8315586	0.7629734	0.91712314	0.9742928
Phase-1 RCT-287	1.2632732	1.0953358	0.9483587	0.82869726	1.0527381	0.71824104	0.9072407	1.342014	0.8130544	0.59637047	0.4597145	0.7407809	1.071252	1.255912
Retinol-binding protein (RBP)	1.0328757	0.8355306	0.8861569	0.9145454	0.81214495	0.7163147	0.7560703	0.8970634	0.72816408	0.6251846	0.48287407	0.6660737	1.2655912	1.2655912
Very long-chain acyl-CoA synthetase	0.88978854	0.7960034	0.9295668	0.85522667	0.9394126	0.7163147	0.7560703	0.8970634	0.72816408	0.6251846	0.48287407	0.6660737	1.2655912	1.2655912
Syndecan-1	1.057565	1.0194391	0.9971336	1.1034007	1.0333687	1.140017	1.2776341	1.150531	1.127618	0.935382	0.73100406	0.58029655	0.8840012	0.9119618
Shabrin	1.5621687	1.8997197	1.1072233	1.1019106	1.0035381	1.111526	1.2776341	1.150531	1.127618	0.935382	0.73100406	0.58029655	0.8840012	0.9119618
Phase-1 RCT-145	0.88256806	0.83918387	0.9537682	0.8565484	0.980877	1.059099	0.90918216	0.86748974	1.0870154	0.96551188	0.68549685	0.782356	1.067161	1.0070526
Actin	0.80155337	0.8000788	0.92291	0.99635154	0.85422924	0.82218167	0.90918216	0.86748974	1.0870154	0.96551188	0.68549685	0.782356	1.067161	1.0070526
Phase-1 RCT-89	1.0267625	1.1405034	0.93463403	1.2284557	1.186705	1.235527	1.201415	0.943398	0.4513307	0.8402729	0.8715394	0.7161505	1.2226083	0.9368891
Sarcolemmal reticulum calcium ATPase	1.4572407	1.5768407	1.1387395	1.2705306	1.2446898	1.0256899	1.1155715	1.0054398	0.96776205	1.435027	1.1895001	1.0210365	1.051026	1.051026
Alpha-2-macroglobulin, sequence 2	1.2374928	1.2162437	0.9422561	1.0262543	0.9891626	1.0815848	0.9683682	1.0224518	1.1951008	1.0011208	1.1851948	1.255908	0.9708163	1.0681927
Phase-1 RCT-204	1.0931413	1.0874077	1.0679589	0.8514126	1.0134132	0.9867549	0.9094096	0.82311404	1.2621864	0.97181834	0.9210026	1.3802773	0.76329887	1.0320044
Vascular endothelial growth factor	0.8877992	0.7140889	1.1624864	0.821252	0.9701836	0.88232315	0.91655097	1.3055232	0.84224707	0.7923732	0.5453488	0.559419	0.9058299	0.7484161
NADP-dependent isocitrate dehydrogenase, cytosolic	0.3289424	1.306378	1.065817	0.89787624	0.8394546	0.7641444	1.4522625	0.6620855	0.9042151	1.22532	1.2031228	0.9636835	0.99873927	0.99873927
DNA binding protein inhibitor D2	0.54694818	0.54214567	1.0527972	0.9580031	1.7558915	1.1701275	1.1678929	1.7579805	0.6517636	0.69202016	0.84026757	0.3325826	0.7282335	0.7282335
Glutathione S-transferase Ya	0.8207506	0.8076536	0.86258787	0.7919725	1.0286249	1.3300343	1.3738457	1.1441139	0.3526732	0.48036036	0.381308	0.8050351	1.1555454	0.5938624
Insulin-like growth factor I	0.984218	1.0492364	1.0274685	0.8137183	1.0596892	0.6625816	0.8283874	1.0361573	0.73850096	0.6349834	0.5732747	0.5214069	0.5483498	0.85405374
Proteinase inhibitor H synthase	1.5277659	1.2288599	0.9099794	0.7503524	0.82033648	0.81765086	0.8773692	0.8773692	0.8664428	2.3643947	1.9438284	2.4646616	2.0416243	1.3643137
Phase-1 RCT-136	0.85764354	0.9105757	0.82314585	0.81730694	0.8773692	0.8664428	0.8773692	0.8664428	2.3643947	1.9438284	2.4646616	2.0416243	1.3643137	1.3643137
Phase-1 RCT-137	1.0704565	0.901865	1.1897423	0.9720935	1.0694132	0.8355362	0.8664428	0.8664428	2.3643947	1.9438284	2.4646616	2.0416243	1.3643137	1.3643137
Phase-1 RCT-138	1.0800164	0.8092407	1.0654877	0.9143451	0.8953281	0.8666572	0.8666572	0.8666572	0.8666572	0.8666572	0.8666572	0.8666572	0.8666572	0.8666572
Hepatic lipase	0.8181079	0.7596442	1.0054877	0.9143451	0.8953281	0.8666572	0.8666572	0.8666572	0.8666572	0.8666572	0.8666572	0.8666572	0.8666572	0.8666572
Phase-1 RCT-164	0.913428	0.8698959	1.0918155	0.9815035	1.1897948	0.8869967	1.080251	1.390353	0.76762016	0.9449812	0.741135	0.76882083	0.9438588	1.07318
Acyl-CoA dehydrogenase, medium chain	1.1745592	0.8712633	1.0471551	0.8610383	1.225832	0.84456146	1.180251	0.90325713	1.9169461	3.3820217	2.582825	1.5666019	1.3793544	0.8892821
Glutathione S-transferase Y02 subunit	0.9158717	0.8614545	0.8714922	0.8683088	1.002133	0.694545	0.90325713	1.9169461	3.3820217	2.582825	1.5666019	1.3793544	0.8892821	0.8892821
Carbonic dehydratase	1.4057711	1.0588887	0.96207545	0.8388908	0.936739	0.7314058	1.0180671	1.294014	1.0039303	0.6917206	1.0427238	1.074133	1.7329285	1.4800017
Phase-1 RCT-166	0.9149828	0.85536826	1.071040024	0.8279226	0.8342803	0.41614106	0.734336	0.6873147	0.36805516	0.33140745	0.20583014	0.31582183	0.74188047	0.8912728
Apolipoprotein E	0.7007168	1.0056233	0.8422523	0.8279226	0.8342803	0.41614106	0.734336	0.6873147	0.36805516	0.33140745	0.20583014	0.31582183	0.74188047	0.8912728
UDP-glucuronosyltransferase	0.67664033	0.61648035	1.0014861	0.89108	0.7019394	0.3082006	1.627155	1.019505	0.68727155	0.87170202	0.5331357	0.65817646	1.1390509	0.8804725
Disulfide isomerase related protein (ERp72)	1.9445119	1.585002	1.7532765	0.9631934	1.1559897	0.9027935	1.0742602	1.0148937	0.9639443	1.092968	1.1816414	1.3070268	0.87654457	1.182592
Ribosomal protein L13	0.9940046	0.85622555	1.1953163	0.99453866	1.2767175	0.76501	0.9774168	0.9708285	1.1665758	1.1495268	0.967788	0.882321	0.9918412</	

Phase-1 RCT-3	1.0593649	0.9661597	1.0112026	1.2452461	1.35198	1.1667813	1.0070713	1.0374677	1.2715274	1.3535464	1.2459027	1.2016058	0.9437133
Retin beta (r-ub)	1.5811765	1.2710481	0.8673397	0.9056516	0.960382	0.7433274	1.043999	0.863156	1.1892375	1.043988	0.8614231	0.8005762	1.1746868
3-hydroxyisovalerate dehydrogenase	1.1994882	0.894763	0.9662039	0.9424628	0.82607	0.8776817	0.9859208	0.7106547	0.8790113	0.7450968	0.6810019	0.7188083	1.0294114
Carbonic anhydrase III, sequence 2	1.0403682	0.8112687	0.7623888	0.8266025	0.7326254	0.8585873	0.9371589	0.7073537	0.8317752	0.73769428	0.36515514	0.5622464	1.2683113
Phase-1 RCT-10	0.90079128	0.9721053	0.7230808	0.8463628	0.82497585	0.82039303	0.8504236	0.9226663	0.9341173	0.89233165	0.5955831	0.7188105	0.9432011
Alpha-2-macroglobulin	1.1972188	1.2739882	0.5971435	1.0526368	1.067193	0.84461935	1.2547137	2.2227184	0.73378255	0.89278338	0.8686428	0.8176041	0.9432011
Dynamin-1 (D100)	0.8270887	0.7440785	0.8913894	0.9650988	1.0232114	1.000794	0.9851003	0.9991688	1.008719	0.8920668	0.8462401	0.823178	1.0329588
Lysyl oxidase	0.8272833	0.80697036	0.8274584	1.0669426	1.1415642	1.3621876	1.4217349	1.3492294	1.3492294	1.3492294	1.3492294	1.3492294	1.3492294
Phase-1 RCT-252	1.0294024	0.8897882	0.89372878	0.82833211	0.7918882	0.8474319	0.7907421	0.8392543	0.78498113	0.78498113	0.78498113	0.78498113	0.78498113
Phase-1 RCT-27	1.2439842	1.218335	1.0542097	1.2256021	1.0647502	1.3553208	0.8684768	0.9716817	1.3553208	1.3553208	1.3553208	1.3553208	1.3553208
Phase-1 RCT-278	1.107881	1.0650236	1.25621479	1.1068545	1.2621479	0.845882	0.8638414	0.8967436	1.1477011	0.84639176	0.8087977	1.313271	1.20488
Phase-1 RCT-42	0.8761552	0.9546997	0.89503516	0.8866682	0.8218614	0.8418851	0.9701637	1.1970534	1.392701	1.2715712	1.3643559	1.0211859	0.9259655
Phase-1 RCT-26	1.0442463	1.0155623	1.2066897	0.91800475	1.0639038	1.0803107	0.9903167	0.9914294	1.1516182	1.0811260	0.8352198	2.1410809	0.9434661
Cytochrome P450 2C11	0.85608272	0.9425067	0.9048261	0.7989366	1.1423661	1.1781021	1.1536802	1.025443	0.620245	1.2386189	2.045394	0.6352198	1.103494
Phase-1 RCT-202	1.143353	1.0163363	0.9143405	0.8561486	0.9502701	1.3774829	0.803476	0.903476	1.278751	0.8162607	0.76239024	0.96176083	0.9919547
Complement factor 1 (CF1)	1.5664335	1.3146289	0.8525898	0.8802389	0.9608334	0.78245884	0.7930566	1.078555	1.2989147	1.0948825	0.76239024	0.96176083	0.9919547
Proliferating cell nuclear antigen gene	0.75772305	0.8173718	1.1574932	1.3910277	1.008376	1.4073357	1.178093	1.075165	0.6514529	0.7182985	1.47186178	1.2230747	0.9902884
Activating transcription factor 3	0.7273536	0.75692433	0.5305249	1.0590037	0.8942463	0.8424462	1.2477546	0.9788423	1.4580142	1.588293	2.056451	2.057463	1.9807546
Focal adhesion kinase (p125FAK)	1.1322945	1.297657	0.8946906	1.2716356	0.9947648	1.6139595	1.058058	0.904285	0.80719115	0.72888297	1.0059813	0.8065063	0.6539483
Phase-1 RCT-288	0.756839	0.7038889	1.0019186	1.0416854	1.1400985	0.8863967	1.0105634	1.0228651	0.81301244	1.1157645	1.2180538	1.1445923	0.9530004
Phase-1 RCT-259	1.1049412	1.0766395	1.1467079	1.057811	1.3176111	0.9453908	0.9478263	1.0228651	0.81301244	1.1157645	1.2180538	1.1445923	0.9530004
Iron-responsive element-binding protein	0.86535685	0.866385	0.97616397	0.9634391	0.9086286	0.9341191	0.9453908	0.9478263	1.0228651	0.81301244	1.1157645	1.2180538	0.9530004
MHC class II antigen RT1A10 alpha-chain	0.89959994	1.0471803	1.2595324	0.85189277	1.166316	1.0844019	1.0027851	1.0012359	2.8169622	2.57511	2.5068177	2.8980742	0.9573593
Avy sulfotransferase	0.6458443	0.63187784	1.0547144	0.8829076	1.4211384	0.87344634	0.9550162	1.253554	0.47545376	0.6655176	0.57084644	0.4930193	1.3112469
Phase-1 RCT-171	0.8751216	0.8574052	0.931428	1.1148023	1.0171354	1.1891775	1.0150373	1.0249612	0.8171704	0.77897465	0.7449465	0.6785582	0.9287272
Phase-1 RCT-43	0.8536268	0.865602	0.8935625	0.90525503	1.0004385	1.0679675	0.9676389	0.9390745	0.8747185	0.88273853	0.7894876	0.74596003	0.65933573
Phase-1 RCT-270	0.6475213	0.5758235	0.8047219	0.75017244	0.82503766	0.8976289	0.9390745	0.8747185	0.88273853	0.7894876	0.74596003	0.65933573	1.7081405
Colony-stimulating factor-1	1.1115118	0.6910963	0.8627519	0.75017244	0.82503766	0.8976289	0.9390745	0.8747185	0.88273853	0.7894876	0.74596003	0.65933573	1.7081405
Neutrophin	0.97945287	0.9403839	0.9164747	0.92084928	0.9786513	1.0033409	1.0264785	0.85086524	1.4603191	1.025871	0.79036725	0.8648141	0.9788861
Phase-1 RCT-62	0.8050827	0.837015	0.9164747	0.92084928	0.9786513	1.0033409	1.0264785	0.85086524	1.4603191	1.025871	0.79036725	0.8648141	0.9788861
Phase-1 RCT-22	1.0413553	0.96880327	0.9556805	0.8448888	0.9508334	0.9122591	1.3187255	0.92191637	0.6022768	0.84891884	0.80326237	0.7817355	0.9076993
AI-3	0.8543659	1.0331317	0.9368478	1.0832655	0.9140487	1.4297458	0.97471657	1.1775874	1.0928263	1.1518599	0.87233355	0.8356588	1.2876028
Phase-1 RCT-18	0.874048	0.82483177	0.8830835	0.96344968	0.847479	1.2188851	0.8452263	0.9563269	1.0709498	1.1367725	1.0868774	1.0032573	0.9589115
Phase-1 RCT-123	0.9510543	0.9392809	1.069741	1.158317	0.35888036	1.3594206	1.0518521	0.9632633	1.076341	1.0188885	1.0781587	1.0540584	0.9605642
Phase-1 RCT-95	0.78872144	0.88248557	1.0622949	0.9787973	0.9085423	0.36165055	0.5318628	0.9350119	1.225472	0.63953136	0.69773273	0.7731424	1.07636825
Equilibrative nitrobenzylthioinosine-sensitive nucleoside transporter	0.77237916	0.8403682	0.83358806	0.8682777	1.0457022	0.9408263	0.9825619	1.0174794	0.8437007	0.72326124	0.6367833	0.5608966	0.7954714
Glucose transporter 2	0.4711357	0.6573101	0.7363769	0.8057536	1.1470666	1.0387386	1.4087683	0.8813788	0.40221727	0.6275077	0.43715245	0.42941276	1.0251453
Multidrug resistant protein-2	0.88521606	1.1482161	0.968246	0.8338189	1.1168138	0.8537698	1.0385768	1.329689	1.3631478	1.4213088	1.2498853	1.2224085	1.1340177
Multidrug resistant protein-1	1.507381	0.9272903	1.1842461	0.9245305	1.1908151	0.9782461	0.99287774	1.0271351	1.2488108	1.2045532	1.4895597	1.684771	1.1882141
Phosphatidylethanolamine-binding protein	1.0476757	0.83773425	1.0022966	0.76253706	1.0452124	0.8190578	0.7819124	1.0901374	2.187722	1.8687284	1.4841086	1.9989529	0.8254946
Phase-1 RCT-180	1.3622051	1.5013901	1.3129156	0.82165796	0.9332857	0.805386	1.1234822	1.2268714	1.4173905	1.2375016	1.0703848	1.304235	0.9339842
Integrin beta-4	0.9201982	1.0172718	1.0399152	1.136572	1.186926	1.3810774	1.215165	0.94474	1.3669705	1.1518555	1.1766307	1.8484511	1.0635
NADPH Glycochrome P450 oxidoreductase	1.1326761	1.177452	1.2061988	0.836478	1.3172449	1.0284907	1.120316	1.0129187	0.87584815	0.9572072	1.0619187	1.4739163	1.0173372
Waf1	0.53418497	0.5159486	1.089216	1.237476	1.167846	1.4148862	1.1274137	1.0127522	1.1274079	1.3824594	1.2666234	1.4710499	1.0534282
Endogenous retroviral sequence, 5' and 3' LTR	0.7817924	0.84917036	0.853574	0.8588678	0.86115714	0.73587986	0.91104902	0.8012223	1.3282558	1.0151435	1.3491335	1.056047	0.9304617
Phase-1 RCT-53	0.8791944	0.9723885	0.8700885	0.8700885	0.8700885	0.8700885	0.8700885	0.8700885	0.8700885	0.8700885	0.8700885	0.8700885	0.8700885
Phase-1 RCT-240	1.0022859	1.1684004	0.8501437	1.121536	1.0226268	1.0783566	1.0880416	1.100078	0.7424545	0.8363045	0.8208845	0.70708815	0.91200894
Osteopontin	0.7284687	0.8624088	0.7695359	0.7089431	0.6980819	0.8545334	0.8677505	0.7174056	0.8522367	0.8671222	0.86113816	0.89462334	0.92511314
Organic anion transporting polypeptide 1	1.2716007	1.2626391	0.8990534	0.849305	0.857187	0.7977735	0.9492723	1.0647816	0.9522367	0.8671222	0.86113816	0.89462334	0.92511314
Phase-1 RCT-241	1.0637344	0.73544717	1.0518008	0.8141374	0.9478964	0.8446845	0.82827383	0.8761312	1.8395806	1.3708087	1.4044435	1.5235452	0.930428
Tissue factor pathway inhibitor	2.9589387	1.6988693	0.9018065	0.9520121	0.83744735	1.1004021	1.1734132	1.0707952	0.8733637	1.2310103	1.1482221	1.0790707	0.98121884
Cyclin-dependent kinase 4 inhibitor P27kip1 (alternate)	1.1412823	1.2668863	1.1440927	1.3358175	1.0536232	1.4430473	0.88732866	1.0745574	0.8940567	1.0335273	1.2048947	1.1267672	1.3335998
Phase-1 RCT-216	0.8762216	1.2388972	0.89411625	0.8650468	0.8853863	1.1053408	0.9071264	0.9188004	0.80942774	0.8496295	0.65785426	0.980751	0.78742987
Phospholipase D	0.74805087	1.01272018	0.76723016	0.9308949	0.7612035	1.028347	0.8469374	1.0027355	0.70237325	1.1281704	1.3704784	1.4273684	0.96178566
Phase-1 RCT-39	1.4104052	1.6631589	0.9088275	1.0612801	0.89150447	1.1721127	0.9222047	0.9076824	0.8793947	0.8204051	0.80070746	0.95829403	1.0039216
Phase-1 RCT-258	1.3571561	0.92581564	1.0154985	0.97373784	0.9258885	1.1611727	0.83305268	0.8681814	0.87311447	0.80019464	0.88899903	0.989481	1.0303532
Phase-1 RCT-113	1.2403374	1.2264336	0.85388255	0.8306687	0.7663776	0.86038985	0.96671057	1.1333568	1.2222322	1.155488	1.2222322	1.14192	1.5073538
Adenine nucleotide translocase 1	0.73235015	0.8221742	0.8013657	0.75168	0.8613175	1.0028433	0.81757363	0.92858817	0.5808717	0.80751947	0.48880232	0.6188026	1.1014684
Alpha-1 acid glycoprotein	10.337865	6.260809	1.353883	1.3469191	1.6282185	0.93160146	1.1458888	2.088122	0.47386836	0.6911556	0.6980232	0.6546816	1.9027414
MHC class II antigen RT1 B-1 beta-chain	1.0653466	0.8449537	0.7346804	0.9908348	0.9785438	1.0459534	1.430462	0.4263386	1.0004463	0.8068557	0.95212036	1.4011122	1.3800057

Table 28

Organic cation transporter 3	1.6449775	1.5639003	1.215203	1.0675376	1.2252864	1.0248191	1.0457604	1.0148531	0.7522243	0.7484944	0.65526175	0.7204255	0.9617214	1.0195625
Hypoxia-inducible factor 1 alpha	0.92618085	0.9471209	0.9494580	1.0153334	1.0494185	1.4769347	1.4855699	0.9585129	0.4311122	0.4381185	0.3958768	0.61472034	1.1544042	0.80026214
Phase-1 RCT-43	0.7873355	0.8953971	0.8767263	0.7116405	0.753432	0.7522697	0.9284325	0.8993286	0.3484416	0.4112203	0.743819	0.850321	0.841717	1.0238228
Phase-1 RCT-45	1.0713814	1.0075121	0.9772049	0.9699454	0.9229164	1.0460426	1.0866804	1.0919505	1.3502285	1.1253754	0.9931792	0.8347345	1.0165597	1.0480949
Malate dehydrogenase, cytosolic	1.3081509	1.0533417	1.3276078	0.834524	1.0170442	0.9282889	0.9186298	1.2205791	0.886228	0.7773748	0.7875487	0.8063424	0.9868934	0.9534571
VI30 element	0.9653848	1.156748	1.2927728	1.1230292	0.90573	0.7947702	0.77640843	0.7593895	0.54176644	0.47821628	0.6215711	0.7094655	0.9823841	0.94243455
Phase-1 RCT-189	0.7971703	0.75560543	1.022822	1.02556	1.1857343	0.7955586	1.0442293	0.9421283	0.8012278	0.7007715	0.50709405	0.9847308	0.97812205	
Alpha-fetoprotein	1.0524886	0.8613188	1.058339	1.0701015	0.9695296	1.2117461	1.1116756	1.0218014	0.7019988	0.73007715	1.1849655	0.7788402	0.90431714	0.5537254
Celgranulin B	1.0789524	0.75318074	1.008946	0.8988568	1.0373278	0.85482885	0.90309005	1.1327678	0.7689902	0.49353778	0.5540497	0.39888538	0.7865484	0.86872344
Tissue plasminogen activator	1.0755728	1.0627276	1.0497004	0.93903126	0.9498396	1.0903188	0.9747801	1.0020086	0.91423327	0.8970353	1.2498572	1.053138	1.0539436	0.86872344
Phase-1 RCT-195	1.0666154	1.0742628	0.87930963	0.9097748	0.8065935	0.7287521	0.8315743	0.972567	0.9038656	0.7892498	0.84747356	0.8803407	0.643276	1.0361325
Liver fatty acid binding protein	1.0592388	1.1091266	1.2425715	1.4386862	1.782711	0.97501184	1.388182	2.491495	0.5782221	0.48688347	0.37656292	0.3268912	0.70595923	0.7438354
Alpha-1 microglobulin/kunitin precursor (Amp)	1.2681884	0.98574394	0.8771092	0.71390717	0.86337064	0.97501184	0.7541017	1.1132527	1.087318	0.8520702	0.483394	0.69618237	0.7956587	0.7490302
Phase-1 RCT-204	0.85872024	0.9534154	0.8778876	1.1412474	0.86337064	0.97501184	0.7541017	1.1132527	1.087318	0.8520702	0.483394	0.69618237	0.7956587	0.7490302
Phase-1 RCT-151	1.3924136	1.2392589	0.87842485	0.8420705	0.8740994	0.720998	1.2325741	0.93136384	1.1428333	1.014736	1.4740139	1.569049	1.039461	1.0316315
Phase-1 RCT-158	0.9543601	0.9850781	0.837111	1.0216238	0.8740994	0.720998	1.2325741	0.93136384	1.1428333	1.014736	1.4740139	1.569049	1.039461	1.0316315
Phase-1 RCT-221	0.80226734	1.05961	0.8342958	0.6788276	0.6357262	0.7096809	0.707161	0.9501723	0.9452898	0.8214027	0.6891304	1.0313078	0.7559753	0.9239038
Phase-1 RCT-235	0.8654445	1.0440664	0.9137028	0.8582018	0.8686343	0.8275328	0.8813444	0.7561052	0.9726518	0.8188564	0.74777013	0.8947681	0.78094345	1.0150024
Organic anion transporter 3	1.0244745	0.7597573	1.0030552	1.1261137	1.2914017	1.0798856	0.9164082	1.0034385	0.85287166	1.1056117	1.15108	1.0669737	0.9022784	
Matrix metalloproteinase-1	1.1462861	0.8304421	1.1764649	0.6990316	1.2222726	0.7990316	0.9520485	0.8625777	1.0034385	0.85287166	0.8125105	0.56891094	0.92150414	0.8502638
Urinary protein 2 precursor	1.378182	1.263121	1.2677296	1.0857841	1.4014637	0.9801304	1.1541833	1.9512178	0.6873797	0.6534094	0.46206877	0.44481403	0.92150414	0.8502638
Phase-1 RCT-212	1.0374302	1.1488208	1.0301659	0.9831838	0.8807353	1.114313	0.916162	0.83637645	1.0870261	1.0778021	1.1176935	1.1028128	1.0394447	0.97581184

(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 18).

(2) Compound and dose abbreviations as in Table 1.

(3) Individual animal number

(4) Liver inflammation classification for compound-dose group at 72 h: yes=clear, necrosis observed; yes=both, necrosis with inflammation observed; no, no inflammation observed

(5) Predictive gene (as in Table 18 and as included in Table 25)

Table 28. Expression Data for 6 Hour Timepoint (1)													
Compound-Dose (2)	ISON 50	ISON 50	ISON 200	ISON 200	ISON 200	ISON 200	ISON 200	ISON 200	ISON 200	ISON 200	ISON 200	ISON 200	ISON 200
Animal Number (3)	1942	1943	1951	1952	1953	2221	2223	2231	2232	2233	341	342	343
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	1,000,771.6	1,000,771.6	1,000,771.6	1,000,771.6	1,000,771.6	1,000,771.6	1,000,771.6	1,000,771.6	1,000,771.6	1,000,771.6	1,000,771.6	1,000,771.6	1,000,771.6
Insulin-like growth factor binding protein 1	1,027,577.9	1,027,577.9	1,027,577.9	1,027,577.9	1,027,577.9	1,027,577.9	1,027,577.9	1,027,577.9	1,027,577.9	1,027,577.9	1,027,577.9	1,027,577.9	1,027,577.9
Gadd153	0.94551885	1.075269	1.075269	1.075269	1.075269	1.075269	1.075269	1.075269	1.075269	1.075269	1.075269	1.075269	1.075269
c-myc	1.0977604	1.0977604	1.0977604	1.0977604	1.0977604	1.0977604	1.0977604	1.0977604	1.0977604	1.0977604	1.0977604	1.0977604	1.0977604
NFK	1.0375043	0.9433064	0.9433064	0.9433064	0.9433064	0.9433064	0.9433064	0.9433064	0.9433064	0.9433064	0.9433064	0.9433064	0.9433064
Heme oxygenase 2	1.3736643	1.00102	1.00102	1.00102	1.00102	1.00102	1.00102	1.00102	1.00102	1.00102	1.00102	1.00102	1.00102
Heme oxygenase	0.977453	1.1637768	1.1637768	1.1637768	1.1637768	1.1637768	1.1637768	1.1637768	1.1637768	1.1637768	1.1637768	1.1637768	1.1637768
Phase-1 RCT-108	0.9618218	1.054547	1.054547	1.054547	1.054547	1.054547	1.054547	1.054547	1.054547	1.054547	1.054547	1.054547	1.054547
Phase-1 RCT-111	1.144619	1.1419255	1.1419255	1.1419255	1.1419255	1.1419255	1.1419255	1.1419255	1.1419255	1.1419255	1.1419255	1.1419255	1.1419255
Aspartate aminotransferase	0.9056254	0.9056254	0.9056254	0.9056254	0.9056254	0.9056254	0.9056254	0.9056254	0.9056254	0.9056254	0.9056254	0.9056254	0.9056254
DNA polymerase beta	0.96571295	1.0470864	1.0470864	1.0470864	1.0470864	1.0470864	1.0470864	1.0470864	1.0470864	1.0470864	1.0470864	1.0470864	1.0470864
Phase-1 RCT-103	0.94431317	1.009869	1.009869	1.009869	1.009869	1.009869	1.009869	1.009869	1.009869	1.009869	1.009869	1.009869	1.009869
Ribosomal protein S9	0.9976996	1.0273173	1.0273173	1.0273173	1.0273173	1.0273173	1.0273173	1.0273173	1.0273173	1.0273173	1.0273173	1.0273173	1.0273173
Phase-1 RCT-114	1.114612	0.9491843	0.9491843	0.9491843	0.9491843	0.9491843	0.9491843	0.9491843	0.9491843	0.9491843	0.9491843	0.9491843	0.9491843
Phase-1 RCT-16	1.1931536	1.0177675	1.0177675	1.0177675	1.0177675	1.0177675	1.0177675	1.0177675	1.0177675	1.0177675	1.0177675	1.0177675	1.0177675
Macrophage inflammatory protein-2 alpha	0.84816967	0.93554116	0.93554116	0.93554116	0.93554116	0.93554116	0.93554116	0.93554116	0.93554116	0.93554116	0.93554116	0.93554116	0.93554116
NGF-inducible anti-proliferative putative secreted protein (PC3)	1.0495213	1.150155	1.150155	1.150155	1.150155	1.150155	1.150155	1.150155	1.150155	1.150155	1.150155	1.150155	1.150155
Phase-1 RCT-181	1.1300342	1.0475516	1.0475516	1.0475516	1.0475516	1.0475516	1.0475516	1.0475516	1.0475516	1.0475516	1.0475516	1.0475516	1.0475516
Phase-1 RCT-53	0.9565696	0.968235	0.968235	0.968235	0.968235	0.968235	0.968235	0.968235	0.968235	0.968235	0.968235	0.968235	0.968235
CytD3	0.10133171	0.0560417	0.0560417	0.0560417	0.0560417	0.0560417	0.0560417	0.0560417	0.0560417	0.0560417	0.0560417	0.0560417	0.0560417
Phase-1 RCT-108	0.9407147	0.988424	0.988424	0.988424	0.988424	0.988424	0.988424	0.988424	0.988424	0.988424	0.988424	0.988424	0.988424
Phase-1 RCT-56	1.1211532	0.8942265	0.8942265	0.8942265	0.8942265	0.8942265	0.8942265	0.8942265	0.8942265	0.8942265	0.8942265	0.8942265	0.8942265
Phase-1 RCT-192	1.0077782	0.96108955	0.96108955	0.96108955	0.96108955	0.96108955	0.96108955	0.96108955	0.96108955	0.96108955	0.96108955	0.96108955	0.96108955
Phase-1 RCT-75	0.9030707	0.9521675	0.9521675	0.9521675	0.9521675	0.9521675	0.9521675	0.9521675	0.9521675	0.9521675	0.9521675	0.9521675	0.9521675
Acetyl-CoA carboxylase	0.97101957	1.054547	1.054547	1.054547	1.054547	1.054547	1.054547	1.054547	1.054547	1.054547	1.054547	1.054547	1.054547
Oxalate C	1.1067014	1.0647405	1.0647405	1.0647405	1.0647405	1.0647405	1.0647405	1.0647405	1.0647405	1.0647405	1.0647405	1.0647405	1.0647405
Phase-1 RCT-49	0.91018814	1.0070521	1.0070521	1.0070521	1.0070521	1.0070521	1.0070521	1.0070521	1.0070521	1.0070521	1.0070521	1.0070521	1.0070521
Phase-1 RCT-9	1.5654421	1.0632559	1.0632559	1.0632559	1.0632559	1.0632559	1.0632559	1.0632559	1.0632559	1.0632559	1.0632559	1.0632559	1.0632559
Gasd45	1.0598023	0.9745344	0.9745344	0.9745344	0.9745344	0.9745344	0.9745344	0.9745344	0.9745344	0.9745344	0.9745344	0.9745344	0.9745344
Phase-1 RCT-156	0.9906961	1.068987	1.068987	1.068987	1.068987	1.068987	1.068987	1.068987	1.068987	1.068987	1.068987	1.068987	1.068987
Coilin	0.99674606	0.93421453	0.93421453	0.93421453	0.93421453	0.93421453	0.93421453	0.93421453	0.93421453	0.93421453	0.93421453	0.93421453	0.93421453
Phase-1 RCT-127	0.92598353	0.9441446	0.9441446	0.9441446	0.9441446	0.9441446	0.9441446	0.9441446	0.9441446	0.9441446	0.9441446	0.9441446	0.9441446
Macrophage inflammatory protein-1 alpha	1.0596436	1.2752298	1.2752298	1.2752298	1.2752298	1.2752298	1.2752298	1.2752298	1.2752298	1.2752298	1.2752298	1.2752298	1.2752298
Zinc finger protein	1.1132207	0.9522577	0.9522577	0.9522577	0.9522577	0.9522577	0.9522577	0.9522577	0.9522577	0.9522577	0.9522577	0.9522577	0.9522577
Phase-1 RCT-73	1.0072176	0.9117415	0.9117415	0.9117415	0.9117415	0.9117415	0.9117415	0.9117415	0.9117415	0.9117415	0.9117415	0.9117415	0.9117415
Glutamine synthetase	0.75998574	0.8692786	0.8692786	0.8692786	0.8692786	0.8692786	0.8692786	0.8692786	0.8692786	0.8692786	0.8692786	0.8692786	0.8692786
Cyt-binding protein	1.0091249	0.9834552	0.9834552	0.9834552	0.9834552	0.9834552	0.9834552	0.9834552	0.9834552	0.9834552	0.9834552	0.9834552	0.9834552
Phase-1 RCT-242	0.9618142	1.0016005	1.0016005	1.0016005	1.0016005	1.0016005	1.0016005	1.0016005	1.0016005	1.0016005	1.0016005	1.0016005	1.0016005
Phase-1 RCT-50	1.0358231	0.1069414	0.1069414	0.1069414	0.1069414	0.1069414	0.1069414	0.1069414	0.1069414	0.1069414	0.1069414	0.1069414	0.1069414
Phase-1 RCT-1	0.968676	0.105159	0.105159	0.105159	0.105159	0.105159	0.105159	0.105159	0.105159	0.105159	0.105159	0.105159	0.105159
Integrin beta1	0.96006734	1.0359537	1.0359537	1.0359537	1.0359537	1.0359537	1.0359537	1.0359537	1.0359537	1.0359537	1.0359537	1.0359537	1.0359537
Insulin-like growth factor binding protein 5	1.0272855	1.0686599	1.0686599	1.0686599	1.0686599	1.0686599	1.0686599	1.0686599	1.0686599	1.0686599	1.0686599	1.0686599	1.0686599
Phase-1 RCT-59	1.0027959	1.0495517	1.0495517	1.0495517	1.0495517	1.0495517	1.0495517	1.0495517	1.0495517	1.0495517	1.0495517	1.0495517	1.0495517
Phase-1 RCT-76	0.9652423	1.1047064	1.1047064	1.1047064	1.1047064	1.1047064	1.1047064	1.1047064	1.1047064	1.1047064	1.1047064	1.1047064	1.1047064
Fertilin H-chain	0.818886	0.8471689	0.8471689	0.8471689	0.8471689	0.8471689	0.8471689	0.8471689	0.8471689	0.8471689	0.8471689	0.8471689	0.8471689
Selenoprotein P	1.0402896	0.91818446	0.91818446	0.91818446	0.91818446	0.91818446	0.91818446	0.91818446	0.91818446	0.91818446	0.91818446	0.91818446	0.91818446
Phase-1 RCT-214	0.8793532	0.9999332	0.9999332	0.9999332	0.9999332	0.9999332	0.9999332	0.9999332	0.9999332	0.9999332	0.9999332	0.9999332	0.9999332
Phase-1 RCT-112	0.8775948	0.7257709	0.7257709	0.7257709	0.7257709	0.7257709	0.7257709	0.7257709	0.7257709	0.7257709	0.7257709	0.7257709	0.7257709
Thymidine synthase	1.2328237	1.0383247	1.0383247	1.0383247	1.0383247	1.0383247	1.0383247	1.0383247	1.0383247	1.0383247	1.0383247	1.0383247	1.0383247
Phase-1 RCT-13	0.9881159	1.2443552	1.2443552	1.2443552	1.2443552	1.2443552	1.2443552	1.2443552	1.2443552	1.2443552	1.2443552	1.2443552	1.2443552
Nucleosome assembly protein	0.5596555	0.6006524	0.6006524	0.6006524	0.6006524	0.6006524	0.6006524	0.6006524	0.6006524	0.6006524	0.6006524	0.6006524	0.6006524
Cholesterol 7 alpha-hydroxylase (p450 VII)	1.2414297	1.0700731	1.0700731	1.0700731	1.0700731	1.0700731	1.0700731	1.0700731	1.0700731	1.0700731	1.0700731	1.0700731	1.0700731
Vascular monoamine transporter (VMAT)	0.8503636	0.7955671	0.7955671	0.7955671	0.7955671	0.7955671	0.7955671	0.7955671	0.7955671	0.7955671	0.7955671	0.7955671	0.7955671
Phase-1 RCT-260	1.2469883	1.0285328	1.0285328	1.0285328	1.0285328	1.0285328	1.0285328	1.0285328	1.0285328	1.0285328	1.0285328	1.0285328	1.0285328
	1.1406721	1.0008791	1.0008791	1.0008791	1.0008791	1.0008791	1.0008791	1.0008791	1.0008791	1.0008791	1.0008791	1.0008791	1.0008791

Phase-1 RCT-32	0.96574634	1.4051356	1.0284073	0.9193663	0.86819925	1.799365	1.4209749	0.8720802	1.0547688	1.0821216	1.0272719	1.1401925	1.169869
Proteinase assembly factor 1	0.9437311	1.0523804	1.095027	1.1441881	1.0282372	1.0117315	1.0000494	0.9982735	0.8720802	1.0547688	1.0821216	1.0272719	1.1401925
Concortinone DNA glycosylase	0.9880124	1.0882015	1.066477	1.1856607	1.0670602	1.0262444	1.0243444	1.0345995	1.071013	1.0643532	0.7904565	1.0171755	1.086553
Phase-1 RCT-42	0.98235014	0.98235014	0.98235014	0.98235014	0.98235014	0.98235014	0.98235014	0.98235014	0.98235014	0.98235014	0.98235014	0.98235014	0.98235014
Matrin PIG	1.2168912	1.031057	1.2049702	0.9813076	1.355331	1.1761152	1.335163	0.9691126	1.0620981	1.1510339	0.4678134	0.67277195	1.590707
Phase-1 RCT-184	1.126718	0.9306577	0.969938	0.9517263	0.9682001	0.9780135	0.915684	0.9228068	0.9672457	0.9065381	0.71913594	0.6722554	1.590707
Phase-1 RCT-168	0.9897769	1.0678431	0.7465231	0.8022584	0.71069715	0.9605346	0.8640118	0.9046657	0.901916	0.8164327	0.3835167	0.6525637	0.611258
Phase-1 RCT-119	1.133738	0.940692	1.2261946	1.2586007	1.230411	1.0410226	0.969115	0.969115	0.969115	0.969115	0.969115	0.969115	0.969115
Carbonic anhydrase II	1.1642508	1.1216606	1.091628	1.116848	1.2280702	1.1937033	1.1930412	1.048012	0.8543953	1.0668191	0.785753	1.008518	1.2241864
Triphosphonate hydroxylase	1.1535026	0.8257044	1.0069169	1.1325338	0.98750275	0.98463076	0.98463076	0.98463076	0.98463076	0.98463076	0.98463076	0.98463076	0.98463076
Phase-1 RCT-71	0.89515673	1.0074083	1.1433009	1.337439	1.2468076	0.9313783	1.055197	1.0323646	0.9671424	0.92151177	0.2071462	1.7869483	1.168117
Phase-1 RCT-179	1.0624583	0.97104655	0.94494826	0.87636244	0.87636244	0.87636244	0.87636244	0.87636244	0.87636244	0.87636244	0.87636244	0.87636244	0.87636244
Phase-1 RCT-161	1.2644585	1.0436232	0.8774453	0.7920463	0.607171	1.2304059	1.050662	0.86733004	0.86733004	0.86733004	0.86733004	0.86733004	0.86733004
Phase-1 RCT-207	1.0706594	1.0672678	1.0348487	1.0806477	1.0806477	1.0806477	1.0806477	1.0806477	1.0806477	1.0806477	1.0806477	1.0806477	1.0806477
Phase-1 RCT-144	0.80167897	0.9716827	1.0246837	1.1588262	0.8513773	0.91643333	0.93411344	1.0573394	0.97947657	1.03715353	0.1377607	1.0879877	1.011608
Phase-1 RCT-225	1.3094153	1.6439751	1.0090707	1.2699995	1.212223	1.0024459	1.1413211	0.8455951	0.8418387	1.0476735	0.42475528	0.78981956	1.6805878
Cytochrome P450 2E1	0.77036983	0.6189463	0.9019844	0.80552167	1.0065966	1.0146956	0.9163131	0.9577145	0.8889011	1.1714653	0.7849881	1.0969928	2.08135
D-1	0.9499711	0.9398923	1.0173119	1.010364	1.008812	0.8653642	0.9089333	0.9657028	1.00455	1.160744	0.222328	2.4589155	2.0429754
Thioredoxin-1 (Ttx1)	1.1230812	1.053785	0.7442405	0.9895916	1.4883219	1.0582008	1.2454773	0.7353717	1.0070786	0.3283733	0.1367677	1.0052402	0.6417587
Carbonic anhydrase III	1.0591717	1.042053	0.9758274	0.8606897	1.0289414	1.0058295	1.0125313	1.0074236	1.0032027	0.9205232	0.8464164	0.6815923	0.84165436
Phase-1 RCT-140	1.0078036	0.96554025	0.9235084	0.805109	0.7603197	0.4657147	0.9636492	1.0272564	0.98518074	0.7941282	0.6148483	0.42823043	0.5182355
Complement component C3	1.0068686	1.8297134	0.7240624	0.7882284	1.4045055	0.3767616	0.9636492	1.0272564	0.98518074	0.7941282	0.6148483	0.42823043	0.5182355
Glucokinase	0.9684365	0.9998043	0.9423208	0.9323573	1.078734	1.078734	1.078734	1.078734	1.078734	1.078734	1.078734	1.078734	1.078734
Phase-1 RCT-173	0.9684365	0.9998043	0.9423208	0.9323573	1.078734	1.078734	1.078734	1.078734	1.078734	1.078734	1.078734	1.078734	1.078734
3-methylglutamate DNA glycosylase	0.9617858	1.063002	1.0187123	1.0802994	1.0802994	1.0802994	1.0802994	1.0802994	1.0802994	1.0802994	1.0802994	1.0802994	1.0802994
Penicillin multifunctional enzyme type II	0.92754046	0.9039344	1.05777	1.0566063	0.7279734	0.7279734	0.7279734	0.7279734	0.7279734	0.7279734	0.7279734	0.7279734	0.7279734
Phase-1 RCT-40	1.0684735	0.9785754	0.7637365	0.6748392	0.54465044	1.08271	1.093525	1.1853378	1.1683637	1.1076714	0.2829463	0.3149856	0.3583445
Saracostin marker protein-30	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073
Cytin G	0.046062	1.0156518	1.2254035	1.1923332	1.0411662	1.0887162	1.0887162	1.0887162	1.0887162	1.0887162	1.0887162	1.0887162	1.0887162
Melanoma-associated antigen ME491	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073	0.9670073
Phase-1 RCT-28	0.95509764	0.9776538	0.96752708	1.0141515	1.0495982	0.96591233	1.0071777	1.022335	1.0402478	0.9535597	0.88407288	1.1677951	1.5258444
Ethanol	1.0738973	1.1822309	1.0582228	1.0714753	0.939155	0.8344268	1.08931046	1.0256116	0.9102844	0.18883369	0.3071824	0.12800981	0.3101155
Alcohol dehydrogenase 1	0.41873862	1.0194987	0.9370704	0.94287753	0.598614	0.7633383	1.0603366	0.9057094	0.9470495	1.0928779	1.1081916	1.1533445	1.1533445
Stem cell factor	1.2053893	1.0194987	0.9370704	0.94287753	0.598614	0.7633383	1.0603366	0.9057094	0.9470495	1.0928779	1.1081916	1.1533445	1.1533445
JNK1 stress activated protein kinase	0.91505517	0.8071423	1.0587832	1.0535333	0.9249211	0.835499	0.8632738	0.95150103	0.9725584	0.8963175	2.1065512	1.2001051	1.2001051
Protein tyrosine phosphatase alpha	1.392655	1.094456	1.1185402	1.0520348	1.179835	0.9249211	0.835499	0.8632738	0.95150103	0.9725584	0.8963175	2.1065512	1.2001051
Phase-1 RCT-55	1.1333488	1.005145	1.1799765	1.0979538	1.0041174	0.9635043	1.0942245	1.2004129	1.10050584	0.8963175	2.1065512	1.2001051	1.2001051
DNA topoisomerase I	0.98921543	0.99770266	1.1369532	1.0490385	1.1940062	1.2342781	1.089498	1.2287095	1.0038025	0.939637	0.93454236	0.7705098	0.83547261
Phase-1 RCT-280	1.0276743	1.1257676	1.126045	1.1676245	1.1836626	0.9508176	1.0363431	1.1140348	1.0666055	0.97036785	20.531637	12.377859	15.404902
Superoxide dismutase Mn	1.0314034	0.93686225	0.9720527	0.89731383	0.5525056	0.8657689	0.88854734	1.0923228	0.7785381	0.7423398	1.0685583	1.5413569	1.7304004
Beta-tubulin, class I	1.1840132	0.8719207	1.4076178	1.4582316	1.428817	1.091687	0.9810862	0.79747474	0.88276568	1.3509556	0.4885086	0.45168883	0.3538014
Carbamoyl phosphate synthetase I	0.972401	1.0347123	1.0468829	1.1162064	1.02984	1.364292	1.0678913	1.1678048	1.0127838	1.0942328	0.5677631	1.3940253	0.7447104
Dialkylglycerol kinase zeta	1.0344005	1.0534729	1.021815	0.8705191	0.85720694	1.4302566	1.0894458	1.8342328	1.2051562	1.392308	4.891912	4.978822	3.7161067
Phase-1 RCT-141	1.120632	0.83709425	1.021815	0.8705191	0.85720694	1.4302566	1.0894458	1.8342328	1.2051562	1.392308	4.891912	4.978822	3.7161067
14-3-3 zeta	0.90701385	0.67315155	0.9447147	1.3242338	0.8463712	0.664848	0.7874003	0.8774339	0.8579134	0.74407697	2.5017985	1.3674983	1.5712758
Camrasectin, cytoplasmic	0.9668991	1.1772331	0.94227694	0.8647789	1.0847408	0.96302587	0.94745546	0.9171289	1.0865928	0.97240454	1.4947401	1.6624883	1.2439847
Ribosomal protein L13A	0.9334734	1.081195	1.004733	0.89427993	1.0914765	0.85367775	0.9202379	0.9171289	1.0865928	0.97240454	1.4947401	1.6624883	1.2439847
Phase-1 RCT-65	1.2901063	0.96534044	1.0953464	1.1762899	1.1828572	1.086503	1.011894	1.0653257	1.034843	0.8945214	1.8297483	2.3381355	2.0400748
c-Jun	1.306656	1.5004582	1.271007	1.3238535	1.3635511	1.2254846	0.94384345	0.8088848	0.90103315	0.9725015	0.5983142	1.0735088	0.733568
Protein O-mannosyltransferase 1 (Pomt1)	1.4503983	0.8669743	1.270273	1.1770811	1.3454766	1.2611448	1.0110895	0.9222586	0.96103315	0.9725015	0.5983142	1.0735088	0.733568
HMG CoA reductase	1.1724387	1.2246265	0.9683817	1.0442383	0.89405838	0.9594442	1.0412063	0.79872547	0.84431046	0.8044282	0.8521887	0.7746885	1.394546
Phase-1 RCT-12	1	0.9738639	1.0475565	0.952547	0.952547	0.952547	0.952547	0.952547	0.952547	0.952547	0.952547	0.952547	0.952547
Interferon related development regulator IFR1	1.0728949	1.0235034	1.2561146	1.0732973	0.9246071	1.0590816	1.0590816	1.0590816	1.0590816	1.0590816	1.0590816	1.0590816	1.0590816
(PC4)	0.6533687	0.92556254	0.8781174	0.72941055	0.9246071	1.0590816	1.0590816	1.0590816	1.0590816	1.0590816	1.0590816	1.0590816	1.0590816
Glucose-regulated protein 78	0.98412283	0.7530355	0.671078	0.6810151	0.6810151	0.6810151	0.6810151	0.6810151	0.6810151	0.6810151	0.6810151	0.6810151	0.6810151
3-hydroxyisovaleryl-CoA dehydrogenase (HSD3B1)	1.0309072	0.9858942	0.94478	1.0624574	1.0624574	1.0624574	1.0624574	1.0624574	1.0624574	1.0624574	1.0624574	1.0624574	1.0624574
Caspase 6	1.2413368	1.0501451	0.3783185	0.36583026	0.7389257	1.0824322	1.0230948	1.0230948	1.0230948	1.0230948	1.0230948	1.0230948	1.0230948
Phase-1 RCT-169	1.0394638	1.065802	1.0233625	1.1421398	1.3815915	1.0674584	1.1294522	1.1054579	1.012568	1.0513813	1.63027	1.8056266	1.380785
Phase-1 RCT-34	1.227173	1.0418711	0.8967238	0.91854771	0.8565785	1.0088627	0.856115	0.82003333	0.9737812	0.8848324	0.11850212	0.40707484	0.5881155

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Phase-1 RCT-72	1.1630556	1.1061718	0.9726218	0.9660793	1.1704144	0.9844856	0.9418323	1.0146052	0.9565213	1.1565528	1.2187478	1.389233	1.1051096	0.8759823
Pyruvate kinase, muscle	1.1040856	0.9894905	1.0916633	1.0765393	0.8691722	0.9782114	0.9844856	0.9418323	1.0146052	0.9565213	1.1565528	1.2187478	1.389233	1.1051096
Phase-1 RCT-288	0.9682316	0.8037252	0.7692787	0.7131755	0.8691722	0.9782114	0.9844856	0.9418323	1.0146052	0.9565213	1.1565528	1.2187478	1.389233	1.1051096
Phase-1 RCT-180	1.1257749	1.0342627	0.9414561	1.0031018	0.9815836	0.9713046	0.9713046	0.9713046	0.9713046	0.9713046	0.9713046	0.9713046	0.9713046	0.9713046
Cytochrome P450 2C39 (alternate clone 2)	0.63719976	0.7165858	0.8321217	0.9140045	0.7260964	0.8820606	0.8820606	0.8820606	0.8820606	0.8820606	0.8820606	0.8820606	0.8820606	0.8820606
Phase-1 RCT-261	0.90461395	0.91000724	0.8571237	0.9400405	0.7260964	0.8820606	0.8820606	0.8820606	0.8820606	0.8820606	0.8820606	0.8820606	0.8820606	0.8820606
Phase-1 RCT-281	1.046053	1.0671822	0.9829295	0.9029177	0.9659406	1.0784272	1.0024848	1.0024848	1.0024848	1.0024848	1.0024848	1.0024848	1.0024848	1.0024848
Methyl-CoA racemase alpha	0.811106	0.892713	0.922391	1.3003391	1.250465	1.0715331	1.250465	1.0715331	1.250465	1.0715331	1.250465	1.0715331	1.250465	1.0715331
Cytochrome P450 1A2	1.312214	1.7646217	1.2885363	1.6187009	1.4045641	1.1020927	1.250465	1.0715331	1.250465	1.0715331	1.250465	1.0715331	1.250465	1.0715331
Phase-1 RCT-267	0.9715244	0.9737637	0.9491597	1.0573165	0.7888314	1.1511059	1.1234705	1.098147	1.0504613	1.098147	1.0504613	1.098147	1.0504613	1.098147
Monoclonal antibody B	0.7481595	0.8376737	0.8626713	0.9592087	1.2813547	1.0308824	0.9592087	1.2813547	1.0308824	0.9592087	1.2813547	1.0308824	0.9592087	1.2813547
Phase-1 RCT-264	0.9097354	0.8535368	0.8388783	0.865123	1.239378	1.1915331	1.239378	1.1915331	1.239378	1.1915331	1.239378	1.1915331	1.239378	1.1915331
Peroxisome proliferator activated receptor gamma	0.985559	1.850098	1.1310933	1.9197618	1.103576	1.3873218	1.0355948	0.9166474	0.83632497	0.8932607	0.9589175	0.9589175	0.9589175	0.9589175
Phase-1 RCT-143	0.9665593	0.8246582	0.6951674	0.9190528	0.97256045	0.9357087	0.9441683	0.94393637	0.94393637	0.94393637	0.94393637	0.94393637	0.94393637	0.94393637
Phase-1 RCT-251	1.0053994	0.90613014	0.92545578	1.0595941	0.97357168	0.9719524	1.1737834	1.210411	1.210411	1.210411	1.210411	1.210411	1.210411	1.210411
Phase-1 RCT-117	1.0625942	0.8395294	1.1334646	1.1119171	1.005373	1.0419251	0.83008313	0.8244924	0.8244924	0.8244924	0.8244924	0.8244924	0.8244924	0.8244924
Guthathione S-transferase beta-1	1.2014712	0.8588934	0.9607677	0.8627677	0.8716296	0.7567313	0.7567313	0.7567313	0.7567313	0.7567313	0.7567313	0.7567313	0.7567313	0.7567313
Phase-1 RCT-91	0.94955236	0.9588639	0.9320688	0.9320688	0.9475771	0.8950986	0.9342304	0.85348877	0.7000046	0.9767868	0.8925995	1.0335997	0.9215578	0.8108377
Phase-1 RCT-148	1.0666529	0.9960405	0.9370465	0.95912065	0.95351403	0.9050125	0.9885624	0.97197374	0.8478835	0.83214855	0.8959003	1.1635935	0.8168325	1.433313
Phase-1 RCT-142	0.8871297	0.9401036	0.9781444	1.1826566	1.0247688	0.976322	0.8978403	0.9769384	0.9769384	0.9769384	0.9769384	0.9769384	0.9769384	0.9769384
Actin receptor type II	1.0885021	0.7100827	1.3386273	1.1855076	2.3357434	1.09724	1.1626384	0.99537886	0.65230554	1.0012481	0.8366244	0.8268414	0.8268414	0.8268414
Glycine methyltransferase	0.65758616	0.7768566	0.9386273	1.3386273	1.1855076	2.3357434	1.09724	1.1626384	0.99537886	0.65230554	1.0012481	0.8366244	0.8268414	0.8268414
Phase-1 RCT-261	1.0125828	1.0348274	0.911618	0.810039	0.9528116	1.0055018	1.0735011	0.9345714	0.8765659	0.92847257	1.0914528	1.245505	0.8750931	0.9455543
Ciliary neurotrophic factor	0.97170764	1.0206268	1.058542	0.9982535	0.9378069	0.9341268	0.92333617	0.9882739	0.9882739	0.9882739	0.9882739	0.9882739	0.9882739	0.9882739
Gap junction membrane channel protein beta 1 (Gp1)	0.9536494	1.2230088	0.9554653	1.0760705	1.3050799	1.5277916	1.4571884	0.9888237	1.258775	1.0084825	0.5561827	0.5551354	0.40217384	1.280857
Phase-1 RCT-98	1.0759774	1.0906545	1.0580334	0.93234956	0.8904138	0.95916136	1.0470465	1.042032	0.9523604	0.9621885	1.4835873	1.0611361	0.9505305	1.244198
Phase-1 RCT-287	1.0620903	0.9437181	1.1534063	1.1490415	1.116273	0.9471638	0.9471638	0.9471638	0.9471638	0.9471638	0.9471638	0.9471638	0.9471638	0.9471638
Relin-binding protein (RBP)	0.8671904	0.8977206	0.9624141	0.9580754	1.0271393	0.8274734	1.0286747	1.057409	0.9674914	0.8155955	0.9201819	0.4362722	0.7690474	0.744786
Very long-chain acyl-CoA synthetase	0.76101036	0.9474174	1.0115439	0.9930036	0.906337	0.97695012	1.216886	0.8578318	0.9648392	0.9335997	0.9335997	0.9335997	0.9335997	0.9335997
Syndecan-1	1.2889186	0.9368966	0.8255212	0.8992405	0.974398	0.974398	0.972333	0.9057104	0.9969112	1.035738	1.066357	0.9731496	1.170195	0.9284246
Syndecan-1	0.8954023	1.0918599	0.8042497	0.8991654	0.9734677	1.0309118	1.0518378	1.0518378	1.0518378	1.0518378	1.0518378	1.0518378	1.0518378	1.0518378
Phase-1 RCT-145	1.0342443	0.9957982	0.9911016	1.1123116	1.04007325	1.0286405	0.9635134	0.8434864	0.8695209	1.0720498	1.37148	1.170529	1.003934	0.972432
Actin	0.9382005	0.9806993	0.9382005	0.9382005	0.9382005	0.9382005	0.9382005	0.9382005	0.9382005	0.9382005	0.9382005	0.9382005	0.9382005	0.9382005
Phase-1 RCT-89	1.0553003	0.9218894	0.9203638	0.8244523	1.022008	0.9588558	1.0375331	0.850339734	0.8719855	1.0421373	0.9880024	1.065433	0.94812167	0.5076294
Sarcoplasmic reticulum calcium ATPase	1.1481987	0.95571784	0.967308	0.967308	0.967308	0.967308	0.967308	0.967308	0.967308	0.967308	0.967308	0.967308	0.967308	0.967308
Alpha-2-macroglobulin, sequence 2	0.99670523	0.89632708	1.0767632	1.3285784	1.2440586	0.93310365	0.9352357	1.0488796	0.9737594	1.0891638	1.2402723	1.5531377	1.2850043	0.87414473
Phase-1 RCT-204	0.9575097	0.8822718	1.1394898	1.1514928	1.1822876	0.98726324	0.9844968	0.9955009	0.97225726	1.0208148	0.8971621	1.1763835	1.1363025	1.1363025
Vascular endothelial growth factor	1.0229851	1.0163968	0.9971878	1.0771087	1.0971533	1.2845117	1.057272	1.0162737	1.0295428	1.0003519	0.5614474	1.0332147	0.81235628	1.1117624
NADP-dependent isocitrate dehydrogenase, cytosolic	1.1027197	0.9581456	0.8428694	0.8044283	0.7353923	0.92856055	1.1571048	0.9218812	0.9802655	0.9801476	0.44218117	0.2603418	0.3987594	0.72289135
DNA binding protein inhibitor ID2	0.8545528	0.9127623	0.856798	1.0881153	0.9001428	1.1379757	0.9595938	1.1521802	1.0465402	0.91362023	0.8524381	0.71702976	0.67881143	1.115051
Guthathione S-transferase Ya	0.78542065	0.8465164	0.49589174	0.49589174	0.76080143	0.745811	0.8044236	1.0158966	0.69257516	1.0041105	0.8901563	0.6180907	0.7041917	0.265844
Epoxide hydrolase	0.8169401	0.8409488	1.0638956	0.4711782	1.1731505	1.084949	0.8511585	0.5804543	0.8855975	0.7870973	0.90417183	0.60845435	0.58162534	1.365544
Insulin-like growth factor I	1.0055254	1.3256341	0.9160503	0.7809376	0.8216284	0.9223839	1.0600337	0.9326337	1.0291188	0.90687825	0.4323246	0.97018575	0.4363307	0.8337215
Prostaglandin H synthase	0.9611734	0.9213542	1.2677728	0.9474228	1.2052065	0.93675594	1.3009527	0.9651965	1.1765392	0.8716332	0.4323246	0.97018575	0.4363307	0.8337215
Phase-1 RCT-136	1.1057508	0.93947766	0.8401089	0.8171985	0.98249396	1.0558314	1.153282	0.9413136	1.0655013	0.8748218	0.8978253	0.8685307	0.7761833	1.0761565
Phase-1 RCT-137	0.8530013	0.84758915	0.7707585	0.6832699	0.7306066	1.0340786	1.0271241	1.0294412	0.9714888	0.9446187	1.0719486	0.7307531	0.8677439	0.5135149
Phase-1 RCT-138	0.9113511	0.8188703	1.006721	0.8034349	0.9689378	0.8984425	0.92864814	1.0367659	0.9714888	0.9446187	1.0719486	0.7307531	0.8677439	0.5135149
Hepatic lipase	0.8826787	0.8773764	0.72660178	0.6782324	0.60888124	1.1218385	0.984215	0.9625698	0.9299979	0.9465327	0.82602444	0.76849386	0.74456745	0.5167287
Phase-1 RCT-164	1.8855851	1.2155776	1.0502344	1.003421	0.91152436	0.9565568	0.92646176	0.95389637	0.80508763	0.75926715	0.9550846	0.8624841	0.7896069	1.47723
Acyl-CoA dehydrogenase medium chain	0.8947108	1.081725	1.135646	1.1752885	0.97145468	0.8327391	0.99471086	1.026804	1.1025473	0.8431827	0.35354602	0.34518635	0.245194	1.245194
Guthathione S-transferase Y02 subunit	1.3165526	0.8488014	0.9272883	0.7338085	0.75082164	0.7733083	0.87258154	0.7733083	0.87258154	0.7733083	0.87258154	0.7733083	0.87258154	0.87258154
Carbonic dehydratase	1.0323071	1.2019883	1.0665375	1.135898	1.0725926	1.029055	0.9555284	1.0261704	0.94383764	0.8851283	0.910874	0.56424268	0.7600535	1.432363
Phase-1 RCT-166	1.1361978	0.7827107	1.0889274	0.90754956	0.8164763	1.0542107	0.8855124	1.0671375	0.974323	0.9056312	0.7910874	0.56424268	0.7600535	1.432363
Apolipoprotein E	1.0120109	1.0342125	0.6897394	0.6954955	0.83901507	1.0160162	1.0718946	0.956362	0.9171406	0.92938143	1.3441764	0.1701206	0.37627214	0.628038
Uridylate kinase	0.8699084	0.7687069	1.0391856	0.7818333	0.7930431	1.0043408	0.82439035	0.7620795	0.8552526	0.7620795	0.8552526	0.7620795	0.8552526	0.8552526
Uridylate kinase	0.89180076	1.095989	0.7862676	0.8528993	0.9384118	0.9339687	1.0326607	0.76352068	0.83733025	0.83733025	0.83733025	0.83733025	0.83733025	0.83733025
Guthathione S-transferase P1	1.0524738	0.9855161	0.82620104	0.76321584	0.8764314	1.0688837	1.037296	1.0393702	1.2378448	1.1043251	1.0722086	0.9501284	1.8332173	1.478622
Naalidase isomerase related protein (ERp7														

Phase-1 RCT-3	0.9282918	1.0189129	1.027844	1.0680267	1.0125866	0.9837466	1.0438438	1.0376549	0.999101	0.9250824	1.0089972	1.583337	0.9158024
1.130141	0.8736025	0.9795374	0.91917384	0.96539374	0.9402437	1.0242437	1.0278126	1.235359	1.1776248	0.9633436	0.9633523	0.9633523	0.9633523
3-hydroxyisovaleryl-CoA dehydrogenase	0.9584098	0.9886337	0.9611915	1.0254447	1.006632	1.065333	1.005494	1.026609	1.0457314	0.973178	0.9633523	0.9633523	0.9633523
Carbonic anhydrase III, sequence 2	0.8588444	0.6526252	0.802448	0.7633576	0.76138836	0.7611884	0.9759445	0.9170715	0.79023946	1.3648468	0.6252731	0.5323153	0.5211654
Phase-1 RCT-10	0.959249	0.887495	1.0442735	1.1651575	1.08169594	1.0639446	1.0471951	0.9513533	1.4632278	0.5436737	0.5811778	0.6582755	0.6582755
Alpha-2-microglobulin	1.25129	0.95916535	1.0586262	0.8370174	0.8065599	1.0339719	0.9698518	0.9291276	0.9939011	1.5013933	1.4721473	1.1606994	0.4701115
U2AF1 isoform	0.974192	0.9012123	0.93727416	0.9529261	0.931382	1.115718	1.0339719	0.9698518	0.9291276	0.9939011	1.5013933	1.4721473	0.4701115
Phase-1 RCT-262	1.0353592	0.96380754	1.5442218	0.69044226	0.8160388	0.9838771	0.9951682	0.9000566	0.9291276	0.9939011	1.5013933	1.4721473	0.4701115
Phase-1 RCT-36	1.080178	0.9908984	0.9808226	0.9382876	1.425292	1.450613	0.9784224	0.9215522	1.011981	0.9718883	1.044077	1.2559591	0.9404643
Phase-1 RCT-276	0.9882912	0.9287447	1.0412768	0.9600571	0.8162321	1.0639721	1.011981	0.9718883	1.044077	1.2559591	0.9404643	0.9404643	0.9404643
Phase-1 RCT-423	1.0473515	0.916392	0.7980704	0.9382876	0.8162321	1.0639721	1.011981	0.9718883	1.044077	1.2559591	0.9404643	0.9404643	0.9404643
Chondroline P-250 2C11	1.2073821	1.0231186	0.9399243	0.9863544	1.161021	1.010763	0.9786139	0.9441103	0.9916738	0.9204879	1.1589474	1.5715594	1.2502701
Complement factor C (CF)	1.0902717	0.9423859	0.7593024	0.928435	0.7693595	1.0112885	1.0688184	0.8576755	0.7672422	0.9916738	0.9204879	1.1589474	1.2502701
Proinflammatory cell nuclear antigen gene	0.9176267	1.0700711	1.0486728	0.9531221	0.99172541	0.9701622	0.9741653	0.9003946	0.9560861	0.96886216	0.9560861	0.9560861	0.9560861
Activating transcription factor 3	1.1841124	1.4494528	1.0487278	1.0433038	0.9713906	1.0313818	0.8454414	0.9759445	1.0311825	0.9077408	0.9305369	0.9077408	0.9305369
Phase-1 RCT-289	1.0401197	0.9939677	1.0433038	0.9713906	1.0313818	0.8454414	0.9759445	1.0311825	0.9077408	0.9305369	0.9077408	0.9305369	0.9305369
Phase-1 RCT-259	0.8950247	0.94843653	0.92586535	0.8834744	1.0034567	1.0071671	0.9011438	0.9718883	1.044077	1.2559591	0.9404643	0.9404643	0.9404643
Phase-1 RCT-259	0.8950247	0.94843653	0.92586535	0.8834744	1.0034567	1.0071671	0.9011438	0.9718883	1.044077	1.2559591	0.9404643	0.9404643	0.9404643
Phase-1 RCT-371	0.96323	0.93735126	0.97110815	0.9433383	0.89516263	0.9197384	0.9011438	0.9718883	1.044077	1.2559591	0.9404643	0.9404643	0.9404643
Phase-1 RCT-270	0.9094623	0.7133436	0.965428	0.95716744	0.98746586	0.8658094	0.9011438	0.9718883	1.044077	1.2559591	0.9404643	0.9404643	0.9404643
Calcium-stimulating factor-1	1.0814818	0.9351126	0.95247597	0.895305	0.8518307	0.9274402	1.0277099	0.9011438	0.9011438	0.9011438	0.9011438	0.9011438	0.9011438
N-cadherin	1.012698	1.019576	0.965546	0.9869605	0.9856427	0.9856427	0.9856427	0.9856427	0.9856427	0.9856427	0.9856427	0.9856427	0.9856427
Phase-1 RCT-62	1.3010724	0.961184	1.0354613	1.0237708	0.920336	0.9475948	0.98699725	0.9782123	0.9916834	0.9575927	0.9815597	1.1343591	1.0475577
AT-3	0.914553	0.9942685	0.92671435	0.920336	0.9475948	0.98699725	0.9782123	0.9916834	0.9575927	0.9815597	1.1343591	1.0475577	1.0475577
Phase-1 RCT-18	0.8376911	0.97311864	1.0322774	1.0072336	1.0235242	0.9570248	0.915875	0.93967484	0.9911634	0.96832267	0.9815597	1.1343591	1.0475577
Phase-1 RCT-123	1.0189316	1.069534	0.85042656	0.7676197	0.65365225	0.516994	0.97145134	0.90778848	0.9556022	0.98209514	0.5682845	0.51521858	0.577985528
Equibrative nitrobenzylthioinosine-sensitive nucleoside transporter	1.4820058	0.9144154	0.8602891	0.7700989	0.7430024	0.95755453	1.0184898	0.69530185	0.98538223	1.0054461	0.7693892	0.8254887	0.83684775
Glucose transporter 2	0.8545986	1.0121991	0.8009373	1.0794557	0.8009373	1.0794557	0.8009373	1.0794557	0.8009373	1.0794557	0.8009373	1.0794557	1.0794557
Mitochondrial resistant protein-2	1.0571882	0.8515902	0.91027416	1.0692060	0.9685802	0.98019075	1.0471546	0.7965562	0.95303377	0.6996726	1.0571153	1.061165085	1.0694815
Mitochondrial resistant protein-1	1.0611644	0.89232937	0.762728	1.224182	0.988334	0.9711336	1.0541419	0.8610248	1.0085474	1.1094203	1.118454	1.1807613	1.2354575
Phosphatidylmethanantennin-binding protein	1.1213416	1.0933395	1.075498	1.20124	1.0337235	1.126544	0.9853066	1.0604535	1.112832	0.849576	1.2591026	1.3439734	1.4897475
Phase-1 RCT-180	1.1342828	1.068088	0.93264997	1.043587	0.9302011	0.88203604	0.9545365	1.0810328	0.85778408	1.2401926	1.2272592	1.4671748	1.4671748
Integrin beta-4	1.0579704	1.117511	1.1000601	1.0473512	1.030461	1.118807	1.00716917	1.00716917	1.00716917	1.00716917	1.00716917	1.00716917	1.00716917
NADPH cytochrome P450 oxidoreductase	1.0471271	1.1099519	1.5760638	2.2429071	0.2678047	1.1630243	1.0649738	1.154426	1.0631498	1.058288	1.0317784	1.1589818	1.1589818
Wdr1	0.95253545	1.1442666	0.8717212	1.0269554	1.1093603	1.1302475	1.0959495	1.0959495	1.0959495	1.0959495	1.0959495	1.0959495	1.0959495
Endogenous retroviral sequences 5' and 3' LTR	1.3955696	1.1480041	0.8717212	1.0269554	1.1093603	1.1302475	1.0959495	1.0959495	1.0959495	1.0959495	1.0959495	1.0959495	1.0959495
Endogenous retroviral sequences 5' and 3' LTR	1.3955696	1.1480041	0.8717212	1.0269554	1.1093603	1.1302475	1.0959495	1.0959495	1.0959495	1.0959495	1.0959495	1.0959495	1.0959495
Phase-1 RCT-54	0.93734	0.9574438	1.0345231	1.031622	0.9811937	1.0272965	1.0272965	1.0272965	1.0272965	1.0272965	1.0272965	1.0272965	1.0272965
Phase-1 RCT-240	0.8541847	1.042502	0.893166	0.913785	0.913785	0.913785	0.913785	0.913785	0.913785	0.913785	0.913785	0.913785	0.913785
Osteopontin	0.9943813	0.8086231	0.9247625	0.87370358	0.8275957	0.85855283	0.9126278	0.9126278	0.9126278	0.9126278	0.9126278	0.9126278	0.9126278
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582	0.8555582
Onchocerca intestinalis	1.021223	0.8028304	0.87139084	0.9455207	1.1242578	1.260251	0.8555582						

Table 28

Organic cation transporter 3	1.1394317	1.0479101	0.8747047	0.8976676	0.90231615	0.9302733	1.0178218	1.0668445	1.0724347	1.03367	1.3145808	1.3100103	0.936572	0.7041165
Hypoxia-inducible factor 1 alpha	1.0276479	0.9347601	1.1260505	0.84569314	0.85677195	1.0521549	0.94922585	0.99875593	1.0135976	1.0141392	2.1242647	2.5066584	1.8497865	1.2368591
Phase-1 RCT-43	1.0009568	1.0593469	0.9538299	0.8419589	0.9610008	1.0496361	1.0822234	0.96033704	1.01011	0.9805343	1.2635694	1.3428544	0.8761677	0.9679539
Phase-1 RCT-45	1.0572413	1.1656793	1.1015718	0.9504773	0.8893825	1.0632848	0.9417759	1.0595535	0.97797155	1.049817	1.084387	1.6704034	0.99481434	0.8641112
Malate dehydrogenase, cytosolic	0.8620607	0.91025674	1.194133	1.2440565	1.224036	0.9341894	1.0767184	1.1650031	1.0176072	1.1334363	0.98422665	0.42528486	0.6540846	0.72290766
VL30 element	1.3631629	1.5273187	0.941227	0.97075146	1.6161335	0.84981567	1.1708381	1.1650031	1.09933	0.76398915	1.3307316	1.5513877	0.9401482	0.69040893
Phase-1 RCT-189	1.1221116	1.0827692	1.0134245	1.0565412	0.89091456	1.1045413	0.94952687	1.12705	1.1081839	1.1706892	0.88109304	0.7589942	0.7980748	0.69922205
Alpha-fetoprotein	0.9566591	1.1225629	1.0707351	1.026353	1.0178465	0.94741297	0.98196554	0.9978488	0.99471235	0.9581514	0.7304353	1.0507375	0.9138512	0.8777238
Cellular protein B	0.69777155	0.78312525	0.82426673	0.80200464	0.72683376	1.0479113	0.95557905	1.2637021	1.0110444	1.0490305	1.2129436	0.8792083	1.2442136	0.10335097
Tissue diamine oxidase	1.0433558	0.9620795	0.9813947	0.9656044	0.9500689	0.99755576	1.0166784	1.0547123	1.0238967	1.0570024	1.0532873	0.7888724	1.0248815	0.74509573
Phase-1 RCT-195	0.7825871	0.8890473	0.73637825	0.865403	0.8423777	0.982485	0.9678771	0.9634112	1.3232185	0.7775913	0.8133724	0.76206071	0.4313122	0.476585
Alpha-1 microglobulin/albumin precursor (Arbp)	0.9178023	0.95158467	0.8363693	0.8124348	0.85341166	1.0023842	0.8792684	1.0680801	0.974693	0.9471142	1.2146802	0.753554	1.000766	0.7894211
Phase-1 RCT-151	0.9602298	1.0416274	1.0700867	1.0678572	1.1078074	0.95276317	0.9334425	1.0594329	0.9785315	0.9688963	0.9502647	1.0350548	1.0687158	1.2198569
Phase-1 RCT-158	0.9655083	1.0378313	1.0955437	0.8833923	0.8833923	1.0666089	1.0375398	1.1488409	1.1242887	1.0588968	1.1619407	1.1444511	1.3685321	1.4241259
Phase-1 RCT-221	0.91862653	1.0168015	0.9191205	0.8888701	1.0511945	0.9984119	1.0399994	1.0425329	1.0926871	1.017222	1.088779	1.3133769	0.9178911	0.6633937
Phase-1 RCT-235	0.89801053	0.9464768	0.9500613	1.0100391	1.051809	1.0381477	1.037289	0.93454367	0.972176	0.979183	0.9169602	0.8297813	0.6340544	0.81210685
Organic anion transporter 3	1.1040255	0.797064	0.8394055	1.3134749	1.15901	1.1716996	1.1942765	0.84528655	0.9884686	1.0475003	0.46640325	0.9457606	0.6555385	0.77408797
Matrix metalloproteinase-1	0.8343246	0.8094984	1.069126	1.0570588	0.85787547	1.0727559	0.9830374	1.1278216	1.0597789	1.0368247	0.7313246	0.9457606	0.6555385	0.77408797
Urinary protein 2 precursor	1.0231919	0.9805279	0.7878255	0.7219254	0.60221195	0.9476535	1.0514728	1.0400233	0.95424324	0.9450388	0.9031924	0.7320176	0.7320176	0.3547058
Phase-1 RCT-212	1.0360703	1.0193738	0.9534308	0.9560288	0.9832817	0.88355476	0.9998468	1.0203595	1.0178217	1.0982868	0.83022213	0.7853874	0.8872875	1.2010728

(1) Gene expression data for 8 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 18).

(2) Compound and dose abbreviations as in Table 1.

(3) Individual animal number

(4) Liver inflammation classification for compound-dose group at 72 h: yes-necr, necrosis observed; yes-both, necrosis with inflammation observed; no, no histopathology observed

(5) Predictive gene (as in Table 18 and as included in Table 26)

Table 20. Expression Data for 6 Hour Timepoint (1)													
Compound-Dose (2)	MET 1.3	MET 1.3	MET 1.3	MET 1.3	MET 1.3	MET 1.3	MET 1.3	MET 1.3	MET 1.3	MET 1.3	MET 1.3	MET 1.3	MET 1.3
Animal Number (3)	222	222	222	222	222	222	222	222	222	222	222	222	222
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	0.636329	0.66072593	0.4722701	0.6238672	0.9155846	0.9703856	1.0815454	1.170277	1.2372783	0.9915605	0.914017	1.060444	0.61410617
Insulin-like growth factor binding protein 1	1.7123194	1.2044227	1.5669763	1.4602768	0.7797075	0.8370414	1.8379778	0.9951769	1.0241533	1.158038	1.1832468	1.1323468	1.0711112
GADD153	1.6944688	1.6185909	1.6347424	1.6021989	1.2761987	1.0718604	1.119841	1.0243884	0.9716124	1.0551381	1.8922041	1.3051496	1.2195615
c-myc	1.7507888	1.5351422	1.1310045	1.0578954	1.0257578	1.2061241	1.3693506	1.1256888	1.2191901	1.0742545	1.185009	1.0982621	1.2685613
NIPK	1.0012082	0.8251115	1.3283002	1.2222241	1.0717591	1.1257794	1.0582248	1.0683224	0.8632248	0.8632248	1.0237555	1.1249118	1.2687708
Calpain II, sequences 2	0.917912	0.85197026	0.9668801	1.29992	1.9946654	1.9898413	2.3341227	2.8951182	0.9675931	0.6327205	0.831506495	0.83736894	1.0893414
Heme oxygenase	0.5262826	0.75905682	0.5422284	0.98403347	1.1935714	1.1935714	1.1935714	1.1935714	1.0482208	1.0670625	1.1010877	0.80661273	1.0653814
Phase-1 RCT-109	0.82207817	0.8713356	0.7859794	0.8506458	1.1898661	1.093561	1.2077861	1.3859822	1.171275	0.8216304	0.85512806	1.017607	0.8232956
Phase-1 RCT-111	1.0245849	1.3214672	1.1921678	1.4901671	1.990301	1.2113259	1.4027214	1.3059822	1.171275	0.8216304	0.85512806	1.017607	0.8232956
Agmatinase	0.7194482	0.7532347	0.600021	0.6951815	0.990545	1.0371808	1.1504164	1.184084	0.9625808	0.9525808	0.9525808	0.9525808	0.9525808
RNA polymerase beta	0.8311026	0.90393865	0.8209894	0.9184818	1.171865	1.1653038	1.3321918	1.131972	1.0624035	0.8250353	0.85018458	0.9174046	0.84011227
Phase-1 RCT-103	2.0036948	0.8872171	0.9017964	0.9726826	1.180913	1.248803	1.3518916	0.9683585	0.9683585	0.9683585	0.9683585	0.9683585	0.9683585
Ribosomal protein S9	1.018402	1.3465297	0.85173714	1.2035329	0.987651	0.9844107	0.9844107	1.341446	1.0990966	0.91747638	1.0530599	1.056564	0.9453253
Phase-1 RCT-114	2.1788854	1.4221032	2.5069609	1.594527	1.240708	1.110408	0.87575316	1.027107	1.6196376	1.6505385	1.4882314	1.1855662	1.2942965
Phase-1 RCT-115	1.1934859	1.3763827	1.372251	1.4357891	0.8197635	0.9817378	1.1691839	1.050679	0.95356925	1.1352926	1.0100117	1.242508	1.0782753
Macrophage inflammatory protein-2 alpha	0.7670687	0.8268925	0.47879576	0.7278106	1.0113196	0.82380754	0.86020285	1.0579156	1.000541	1.2219512	1.0425868	1.038098	0.86180043
NGF-inducible anti-proliferative putative secreted protein (PC3)	1.8986532	3.5378516	1.1209408	2.4857285	1.1726388	1.1192247	1.2584882	1.2003637	1.3008318	1.0430904	1.2515149	1.1873651	0.9537013
Phase-1 RCT-161	1.1777638	0.95844394	2.0789466	2.176986	0.9232387	0.9230112	1.09473	0.95421875	1.2658764	1.1763778	1.0711067	1.1530368	1.1133708
Phase-1 RCT-163	1.5807789	1.5053675	1.0807766	1.1643916	0.9918923	1.0705559	1.4885808	0.9384584	1.0708973	1.0065954	0.9878221	1.0472928	0.9543068
Cyclin D3	0.9192273	0.8623694	0.7395943	0.9211584	1.2083029	1.2021775	1.2615505	1.2249786	0.8782188	0.79176905	0.77630603	1.1852041	0.77688417
Phase-1 RCT-59	0.7485046	0.8713833	0.590529	0.3671076	1.2265666	1.0376168	1.5391164	0.7698049	0.8721643	0.80429703	1.1802766	0.7454251	0.65871894
Phase-1 RCT-192	0.8591752	1.6480027	0.7732317	0.9704307	0.9336173	0.95863366	0.9905128	0.8497418	1.0788811	0.944518	0.9132924	1.1881644	0.903349
Phase-1 RCT-193	1.040312	1.0278354	1.1472554	1.133636	1.2784487	1.2602512	1.1587095	1.083778	0.9250437	0.9915525	1.0261859	0.80056785	0.75658065
Acyl-CoA carboxylase	1.0344894	0.6853674	1.0089206	1.0234938	0.8637637	0.85759974	0.85759974	0.85759974	0.85759974	0.85759974	0.85759974	0.85759974	0.85759974
Phase-1 RCT-35	0.9210039	0.8106414	0.8089206	1.0184507	1.1830892	1.1731812	1.054404	1.0667025	0.98154525	0.8865271	0.84035504	0.93048406	0.8545986
Cystatin C	0.7017978	0.8057317	0.6930772	0.7112947	1.185947	1.0880651	1.0113313	0.8143777	0.8222131	0.8821946	1.0238909	0.9996163	1.2881171
Phase-1 RCT-49	0.5840458	1.0148873	0.8084253	0.96576856	0.98502916	1.0414908	1.0148319	1.2372597	0.7180192	1.0214894	0.9735273	1.1563894	1.0542881
Phase-1 RCT-9	0.8268787	1.0417058	0.7326236	0.9623105	1.3985769	1.437824	1.530927	0.930927	0.4397174	1.5167454	0.97312856	1.2098116	1.4333833
Gadd45	1.0368172	0.9307535	0.7326065	0.9197177	0.84230765	1.31363	0.8693835	1.0540577	0.887884	0.9784633	0.8524151	1.2098116	1.4333833
Phase-1 RCT-166	0.8878947	0.8942875	0.8214407	0.9963006	1.1505095	1.1793235	1.0432833	1.059009	0.7797022	0.9135772	0.8843885	0.89564	0.8509884
Phase-1 RCT-167	0.87555474	1.1884738	1.2282178	1.232546	1.2883893	1.501024	1.0762517	0.8462383	1.0492737	1.0241293	1.0033924	1.0105591	1.0147694
Phase-1 RCT-168	0.9470899	0.96296975	1.016016	1.1130027	0.9127787	1.0839665	1.2140782	1.0530598	0.9850899	1.0095937	0.8105291	1.023035	1.184915
Phase-1 RCT-169	2.2255218	1.7505895	1.4021625	1.3478021	1.3000499	1.3006622	1.3687288	0.9140722	0.9784286	1.0254463	0.89445134	1.0256882	1.0761268
Phase-1 RCT-170	1.1289784	1.3502263	1.141754	1.196648	1.1238501	1.0685122	1.0983542	1.0768971	1.2626557	0.9705471	1.1023468	1.0821521	1.0417241
Phase-1 RCT-171	0.9470899	0.96296975	1.016016	1.1130027	0.9127787	1.0839665	1.2140782	1.0530598	0.9850899	1.0095937	0.8105291	1.023035	1.184915
Phase-1 RCT-172	0.8370555	0.9013748	0.9709448	1.1017735	1.0163764	1.0810827	0.84406344	1.2681548	0.6483477	0.6565428	0.6846836	0.6852734	0.6908945
Phase-1 RCT-173	0.8873496	1.237052	0.8423858	0.6985704	1.483116	1.1230886	1.4050507	0.9308073	1.0072488	1.0268921	1.0281354	1.1014955	1.0172472
Phase-1 RCT-174	1.1058718	1.3071805	1.0817133	1.5210397	0.8165627	0.8226148	0.8055057	0.7374078	0.7613725	0.70830977	0.7911043	0.8983389	0.857442
Phase-1 RCT-175	1.3971759	1.4273196	1.4594391	1.3769141	0.891236	0.8853963	0.9207312	0.9718036	0.95453844	1.0219473	1.0604969	1.0028012	1.0034884
Phase-1 RCT-176	0.8978464	0.7646827	1.6563217	0.96378237	1.0805078	1.0436599	1.1536056	1.319021	0.9791168	0.9765573	0.98506	0.96261086	0.9845825
Phase-1 RCT-177	1.0449228	1.0948804	0.93765396	1.055515	1.0856451	0.96831007	1.0281152	1.3164912	1.0501166	0.98576555	0.8468959	1.0119903	0.86088744
Phase-1 RCT-178	2.1553366	2.3446257	1.7171338	2.8907754	1.054623	1.0940019	1.3043635	0.9258307	0.8701531	0.8417527	0.8417527	0.8417527	0.8417527
Phase-1 RCT-179	1.0337437	1.2067604	1.0963081	0.9339778	0.9202838	0.972082	0.8774627	1.0186094	0.9094715	1.1253964	1.0806004	0.94689236	1.082748
Phase-1 RCT-180	0.6824833	0.812173	0.6397002	0.7816933	1.091946	1.1853548	0.9738598	0.9881385	1.7214717	0.8630178	0.8696235	0.8515131	0.9591988
Phase-1 RCT-181	0.6263039	0.5233888	0.57063437	0.7816933	0.965289	0.9777228	1.0118233	1.043234	1.043234	1.043234	1.043234	1.043234	1.043234
Phase-1 RCT-182	0.6425644	0.64052874	1.1787784	0.7751597	0.9407764	0.9303008	0.9091878	0.9773957	1.5070047	0.86272347	0.8290403	0.7812466	0.91810985
Phase-1 RCT-183	1.046856	0.8566937	0.76591285	0.62322944	0.7757092	0.9914578	0.83662184	0.8893688	0.8179447	0.98948	0.76495034	1.0449495	0.9268826
Phase-1 RCT-184	1.0108815	1.273834	1.2565428	1.00732	1.0716561	0.7278664	0.67591578	0.83526458	0.9589883	0.875105	0.7365359	1.007114	0.7001616
Phase-1 RCT-185	1.0157597	1.1415277	0.70435	0.8244341	0.7296966	0.8244341	0.7296966	0.8244341	0.7296966	0.8244341	0.7296966	0.8244341	0.7296966
Phase-1 RCT-186	1.3518738	1.2803384	1.2807072	1.3412317	0.78032047	0.78032047	0.78032047	0.78032047	0.78032047	0.78032047	0.78032047	0.78032047	0.78032047
Phase-1 RCT-187	1.0942378	0.6537187	1.1548822	0.80020614	1.488406	0.6802891	0.64432293	1.1037319	0.7618153	0.59222875	0.818827	1.1268776	0.9166316
Phase-1 RCT-188	0.8848844	0.8544565	0.9650805	0.9055468	0.802891	0.802891	0.802891	0.802891	0.802891	0.802891	0.802891	0.802891	0.802891
Phase-1 RCT-189	1.0806594	0.6333873	1.3971931	1.3004295	0.5763515	0.94080073	0.9351531	0.74912554	0.9351531	0.74912554	0.9351531	0.74912554	0.9351531
Phase-1 RCT-190	1.3201163	1.8835188	1.2808651	1.2808651	0.6124623	0.58689776	0.6789725	0.70461553	0.90014744	1.0180904	1.1276078	1.0825975	1.0984137
Phase-1 RCT-191	0.8073783	1.0928055	0.59417945	0.81068845	0.8195555	0.8261928	1.0689115	0.9383714	0.9444656	0.9575965	1.0895769	1.1109056	1.001987

Table 20

Phase-1 RCT-32	1.0511272	0.965628	1.123722	0.897476	1.217183	1.0169158	1.0958854	1.10152	1.4328781	1.0073591	1.0678118	0.6694048	1.1987036
Proteinase antibody factor 1	1.4613767	1.408337	1.4824561	1.5929677	0.9883534	1.1160519	1.2686244	1.0945307	1.0180646	0.99807234	1.0474739	0.8465681	0.89349673
Exonuclease DNA glycosylase	1.1891489	1.1661803	0.991435	0.8294979	0.84132875	0.8294979	0.84132875	0.914308103	0.914308103	0.914308103	0.914308103	0.914308103	0.914308103
Phase-1 RCT-42	0.87536347	0.5152602	0.8834263	1	0.9266159	0.847594	0.8224909	0.913398103	0.850552234	0.8747747	1.0112163	0.8645254	0.8782427
Mitlin P18	0.69585277	1.0761907	0.7163315	0.7163315	0.750396	0.8249091	0.788716	0.903398	0.9330095	1.0240278	1.1547661	0.963914	0.6959983
Phase-1 RCT-184	1.1856117	0.7073501	0.83887046	0.7163315	0.9742363	0.92293215	0.95594794	0.8859824	0.869666	0.9652228	1.0424283	0.8560921	0.7995534
Phase-1 RCT-188	0.8243065	0.9706556	0.7610443	0.70917094	0.9810729	0.9079328	0.7854334	0.8527843	0.8747509	0.8412503	0.98526095	0.66500816	0.3912119
Phase-1 RCT-119	0.72851225	0.654422	0.7610443	0.70917094	0.9810729	0.9079328	0.7854334	0.8527843	0.8747509	0.8412503	0.98526095	0.66500816	0.3912119
Carbonic anhydrase II	1.1744732	1.0144172	0.9104063	0.9005937	0.90944536	0.90944536	0.90944536	0.90944536	0.90944536	0.90944536	0.90944536	0.90944536	0.90944536
Tryptophan hydroxylase	1.3256533	1.3516151	1.981575	0.9747872	0.9714872	0.9714872	0.9714872	0.9714872	0.9714872	0.9714872	0.9714872	0.9714872	0.9714872
Phase-1 RCT-171	0.9629003	1.0715241	1.0643274	0.9191672	0.9191672	0.9191672	0.9191672	0.9191672	0.9191672	0.9191672	0.9191672	0.9191672	0.9191672
Phase-1 RCT-179	0.73734516	0.860205	0.860205	0.860205	0.860205	0.860205	0.860205	0.860205	0.860205	0.860205	0.860205	0.860205	0.860205
Phase-1 RCT-161	1.9659631	1.2933291	1.5659357	1.7074089	0.8956972	0.8956972	0.8956972	0.8956972	0.8956972	0.8956972	0.8956972	0.8956972	0.8956972
Phase-1 RCT-207	1.065494	1.297682	1.2009839	1.4401608	1.1704411	1.1704411	1.1704411	1.1704411	1.1704411	1.1704411	1.1704411	1.1704411	1.1704411
Phase-1 RCT-144	0.81790715	1.0888162	1.2009839	1.4401608	1.1704411	1.1704411	1.1704411	1.1704411	1.1704411	1.1704411	1.1704411	1.1704411	1.1704411
Phase-1 RCT-225	1.44759479	1.5049703	0.202662	0.771519	0.76504946	0.76504946	0.76504946	0.76504946	0.76504946	0.76504946	0.76504946	0.76504946	0.76504946
Cyclochrome P450 2E1	1.208205	0.9596526	1.3030441	0.7071715	0.76504946	0.76504946	0.76504946	0.76504946	0.76504946	0.76504946	0.76504946	0.76504946	0.76504946
Phase-1 RCT-275	1.720719	1.6574174	1.789895	1.5070465	1.1378937	1.1378937	1.1378937	1.1378937	1.1378937	1.1378937	1.1378937	1.1378937	1.1378937
Thioredoxin-1 (Tix1)	0.5159885	0.6585885	0.36702793	0.5102024	0.7738411	0.7738411	0.7738411	0.7738411	0.7738411	0.7738411	0.7738411	0.7738411	0.7738411
Carbonic anhydrase III	0.7571603	1.190741	1.0308634	0.5683266	0.93939497	0.93939497	0.93939497	0.93939497	0.93939497	0.93939497	0.93939497	0.93939497	0.93939497
Phase-1 RCT-140	1.5340102	1.598699	1.1909785	1.0310173	1.0089441	1.0089441	1.0089441	1.0089441	1.0089441	1.0089441	1.0089441	1.0089441	1.0089441
Complement component C3	0.36980265	0.4156075	0.5831223	0.5538358	0.9059109	0.9059109	0.9059109	0.9059109	0.9059109	0.9059109	0.9059109	0.9059109	0.9059109
Galectinase	1.2580228	0.5739347	0.4199665	1.115394	0.8669384	0.8669384	0.8669384	0.8669384	0.8669384	0.8669384	0.8669384	0.8669384	0.8669384
Phase-1 RCT-173	1.1628283	0.9367258	1.0471235	0.6689792	1.0640774	1.0640774	1.0640774	1.0640774	1.0640774	1.0640774	1.0640774	1.0640774	1.0640774
3-methylglutamate DNA glycosylase	1.645913	1.8186692	1.859546	2.7354394	1.3284323	1.3284323	1.3284323	1.3284323	1.3284323	1.3284323	1.3284323	1.3284323	1.3284323
Proteinase-1 RCT-171	0.9540434	1.3137769	1.2228757	1.4286439	1.3284323	1.3284323	1.3284323	1.3284323	1.3284323	1.3284323	1.3284323	1.3284323	1.3284323
Phase-1 RCT-140	0.6845598	0.70607597	0.8084265	0.67480576	1.1213188	0.9700915	1.055006	0.9064109	0.7634116	0.8885903	1.0596944	1.0222668	0.9540434
Phase-1 RCT-140	0.4374487	0.5167382	0.98713577	0.7702806	1.1213188	0.9700915	1.055006	0.9064109	0.7634116	0.8885903	1.0596944	1.0222668	0.9540434
Sensitization marker protein-30	1.660185	1.4946433	1.8336025	2.3144493	0.84546767	0.84546767	0.84546767	0.84546767	0.84546767	0.84546767	0.84546767	0.84546767	0.84546767
Cyclin G	0.07776854	1.0078892	0.9737937	1.1212179	0.5668019	0.5668019	0.5668019	0.5668019	0.5668019	0.5668019	0.5668019	0.5668019	0.5668019
Melanoma-associated antigen ME491	1.3795416	1.4797301	1.1228698	0.5759933	0.8482971	0.8482971	0.8482971	0.8482971	0.8482971	0.8482971	0.8482971	0.8482971	0.8482971
Phase-1 RCT-28	1.128517	1.3627031	0.988475	0.85523578	1.0458349	1.0458349	1.0458349	1.0458349	1.0458349	1.0458349	1.0458349	1.0458349	1.0458349
Enkephalin	0.72294414	0.6951037	0.988475	0.85523578	1.0458349	1.0458349	1.0458349	1.0458349	1.0458349	1.0458349	1.0458349	1.0458349	1.0458349
Stem cell factor	1.5928516	1.095482	0.928839	0.816057	1.0108875	1.0108875	1.0108875	1.0108875	1.0108875	1.0108875	1.0108875	1.0108875	1.0108875
Alcohol dehydrogenase 1	0.7902209	0.6739138	0.6731245	0.6157246	1.0636	0.94167	0.9335675	0.8742356	0.8109385	0.6330561	0.7267335	0.737278	0.8628088
Protein tyrosine phosphatase alpha	0.5174308	0.8193913	0.135964	0.135964	0.944674	0.944674	0.944674	0.944674	0.944674	0.944674	0.944674	0.944674	0.944674
Phase-1 RCT-55	0.53451033	0.51817787	1.3971804	1.171635	0.6951634	0.6755424	0.7020023	0.9551498	0.9814958	0.9814958	0.9814958	0.9814958	0.9814958
Ubiquitin conjugating enzyme (RAD 6 homologue)	0.8896522	0.79737884	0.72202943	0.67407846	1.025634	1.025634	1.025634	1.025634	1.025634	1.025634	1.025634	1.025634	1.025634
Phase-1 RCT-280	1.0299521	1.0263124	0.8602291	0.74969135	0.865974	0.865974	0.865974	0.865974	0.865974	0.865974	0.865974	0.865974	0.865974
Superoxide dismutase Mn	1.0316026	1.2036241	0.8602291	0.74969135	0.865974	0.865974	0.865974	0.865974	0.865974	0.865974	0.865974	0.865974	0.865974
Beta-tubulin, class I	1.2597079	2.015382	1.7375705	1.7845248	1.2701181	1.2701181	1.2701181	1.2701181	1.2701181	1.2701181	1.2701181	1.2701181	1.2701181
Carbamoyl phosphate synthetase I	0.5209038	0.47962262	0.3596728	0.3017372	0.85424685	0.85424685	0.85424685	0.85424685	0.85424685	0.85424685	0.85424685	0.85424685	0.85424685
Dialkylglycerol kinase zeta	1.2564012	0.97581005	0.8749867	0.9345837	0.7653656	0.7653656	0.7653656	0.7653656	0.7653656	0.7653656	0.7653656	0.7653656	0.7653656
Phase-1 RCT-141	0.84023505	0.95569384	1.0894389	1.3393389	0.856959	0.856959	0.856959	0.856959	0.856959	0.856959	0.856959	0.856959	0.856959
14-3-3 zeta	1.3138482	1.7261057	1.024441	1.6705579	1.4222497	1.4222497	1.4222497	1.4222497	1.4222497	1.4222497	1.4222497	1.4222497	1.4222497
Gammacellin, cyclophatic	0.7858456	0.85103357	1.7661556	1.3962433	0.6654911	0.6654911	0.6654911	0.6654911	0.6654911	0.6654911	0.6654911	0.6654911	0.6654911
Ribosomal protein L13A	1.0758667	0.6010989	0.4018589	0.38075797	0.990426	0.990426	0.990426	0.990426	0.990426	0.990426	0.990426	0.990426	0.990426
IRB-a	0.75573396	0.8205574	1.026741	1.026741	0.956275	0.956275	0.956275	0.956275	0.956275	0.956275	0.956275	0.956275	0.956275
c-Jun	2.3410471	1.917057	1.3262059	2.3691102	0.800724	0.800724	0.800724	0.800724	0.800724	0.800724	0.800724	0.800724	0.800724
Protein O-mannosyltransferase 1 (Pom1)	1.5606412	1.6319388	1.7080442	1.5691931	0.810295	0.810295	0.810295	0.810295	0.810295	0.810295	0.810295	0.810295	0.810295
HMG CoA reductase	2.8068133	4.3035164	3.3481505	3.759344	0.9387944	0.9387944	0.9387944	0.9387944	0.9387944	0.9387944	0.9387944	0.9387944	0.9387944
Phase-1 RCT-12	1.6412959	2.44234	1.2624868	1.2651873	1.074695	1.074695	1.074695	1.074695	1.074695	1.074695	1.074695	1.074695	1.074695
Interferon related developmental regulator (FRD1 PC4)	1.1590636	1.7441276	1.2831824	1.5799644	1.100193	1.1354558	1.1432665	1.1356649	1.3972198	1.4572852	1.196203	0.9661744	0.854423
Glucose-regulated protein 78	0.89168857	0.6593012	0.7896874	0.78255325	1.1047945	0.9872367	1.2683137	1.0433071	1.216887	1.0111693	0.9902828	1.2900181	1.3345587
3-hydroxyisovaleryl dehydrogenase (HSD3B1)	0.8232395	1.0041775	0.8232395	0.8232395	0.8232395	0.8232395	0.8232395	0.8232395	0.8232395	0.8232395	0.8232395	0.8232395	0.8232395
Caspase 6	1.3780744	1.064221	1.1083107	1.0655666	0.8604817	0.8604817	0.8604817	0.8604817	0.8604817	0.8604817	0.8604817	0.8604817	0.8604817
Phase-1 RCT-189	0.84223104	0.8353925	0.91748946	1.1174746	1.18112	0.903818	0.9241134	0.903818	0.9241134	0.903818	0.9241134	0.903818	0.9241134
Phase-1 RCT-187	1.103641	0.9901083	0.8860568	1.0120423	0.9328422	0.9328422	0.9328422	0.9328422	0.9328422	0.9328422	0.9328422	0.9328422	0.9328422
Phase-1 RCT-34	0.66887206	0.51403214	1.1975708	0.83273893	1.6337018	1.5218947	1.3086714	1.0601436	1.0565179	1.0462052	1.1478174	1.0504084	0.8275412

Table 28

Phase-1 RCT-172	1.004445	0.48024562	1.2682431	1.4523392	0.9217702	0.8034726	0.9441825	1.3333243	1.2053462	0.9557113	0.9778121	0.8497456
Pyruvate kinase, muscle	1.204565	1.027803	1.567251	0.9635985	1.004435	1.0428035	1.0458358	1.059203	1.0301534	0.8948154	1.0228864	1.1910095
Phase-1 RCT-186	0.4811328	0.5201438	0.5201622	0.3050605	1.258274	0.312023	0.90044953	0.8372865	0.8328164	0.8214795	1.0228865	0.8763836
Phase-1 RCT-190	1.2520242	0.7671316	1.1730751	1.36372	1.1755552	1.061162	0.7523235	1.2502275	0.8269457	0.9430515	1.0178597	0.98120916
Cytochrome P450 2C39 (alternate clone 2)	0.66487046	0.9182387	0.8949469	0.9007326	0.6569207	0.6285849	0.6984335	0.7606688	0.9136856	1.3575007	0.69450235	0.9572323
Phase-1 RCT-260	0.67688528	0.6544167	0.7954912	0.7471816	0.6442232	0.9804501	0.6442232	0.5221685	0.7601612	0.9459555	0.8578922	1.3516763
Phase-1 RCT-261	3.4624605	4.0162724	2.0356105	1.7287154	1.2211367	1.228771	1.4022139	1.1245341	0.769455	0.8873018	1.053375	1.033328
Methyl-CoA racemase alpha	0.6258662	0.5949595	0.5074685	0.5258965	0.8491446	0.8678855	0.9402113	1.1010339	0.9509801	0.83957034	1.0291289	0.9100915
Cytochrome P450 1A2	0.8959948	0.94047987	1.5221454	1.1543612	0.8914446	0.8713378	0.8713378	0.8166119	0.7841674	1.0786428	0.8166562	1.2672285
Phase-1 RCT-287	0.6335534	0.820066	0.3560348	0.5237262	1.0817604	1.0271547	0.8593398	0.7603351	1.0120143	1.3634865	0.7192243	1.088757
Monomeric oxidase B	0.6345481	0.49721587	0.48702332	0.6128414	1.1743271	1.0924982	0.9554068	0.9201337	0.8940004	0.952618	0.9526244	1.088757
Phase-1 RCT-284	0.6312524	0.7762535	0.3560348	0.5237262	1.0817604	1.0271547	0.8593398	0.7603351	1.0120143	1.3634865	0.7192243	1.088757
Perforin/proliferator activated receptor gamma	2.0147614	1.3740038	0.7953385	0.65503407	0.65503407	0.65503407	0.65503407	0.65503407	0.65503407	0.65503407	0.65503407	0.65503407
Phase-1 RCT-143	0.90708760	0.9464901	1.8014547	1.1986085	0.7281646	0.7281646	0.7281646	0.7281646	0.7281646	0.7281646	0.7281646	0.7281646
Phase-1 RCT-251	0.92363906	1.3676528	1.3620975	1.2241833	0.9431628	1.0645089	0.7281646	0.7281646	0.7281646	0.7281646	0.7281646	0.7281646
Phase-1 RCT-117	1.513898	0.9410278	1.5984311	0.8748564	0.9962376	1.1213766	1.115653	1.0331129	0.9848892	1.3352971	1.022816	0.9180911
Glutathione S-transferase beta-1	0.8433388	1.1445111	0.5692662	0.8209835	0.9242827	0.9138054	1.0018093	0.9147265	0.8751215	0.9317019	1.000109	0.7495535
Phase-1 RCT-481	0.76163954	0.8339468	0.9575774	0.7068193	0.9356914	0.9356914	0.9356914	0.9356914	0.9356914	0.9356914	0.9356914	0.9356914
Phase-1 RCT-148	0.76163954	0.8339468	0.9575774	0.7068193	0.9356914	0.9356914	0.9356914	0.9356914	0.9356914	0.9356914	0.9356914	0.9356914
Phase-1 RCT-142	1.4842508	1.2500568	0.5292757	0.8059475	0.8059475	0.8059475	0.8059475	0.8059475	0.8059475	0.8059475	0.8059475	0.8059475
Activin receptor type II	1.0933883	0.9633046	0.94271516	0.8172053	1.1787902	0.9716173	0.93244317	0.6724245	1.1710802	0.85427476	1.1800968	0.8274336
Glycine methyltransferase	0.8991018	1.0037649	0.7389951	0.8511354	1.0517255	1.196652	0.742138	1.2942353	0.8603994	0.8400953	0.7849076	0.9403664
Phase-1 RCT-281	1.0285549	1.0201093	1.1713341	1.1911759	0.8493797	0.8587716	0.97644734	0.92297656	0.8804871	0.973984	0.9588824	0.9826876
Ciliary neurotrophic factor	1.0817757	1.501282	0.9252159	1.5182887	0.8523323	0.75418764	0.6822833	0.8490056	1.1765048	0.83126485	1.080798	0.8525559
Gap junction membrane channel protein beta 1 (Gp1)	1.1765446	1.0340674	0.907828	0.8321876	0.9050096	1.015947	0.9816253	1.2542443	0.9628474	1.0544349	0.94178436	0.8128436
Phase-1 RCT-96	0.94643916	1.1081768	1.0800303	0.9151026	1.2305877	1.1143019	1.1611038	0.9755294	0.8742574	0.8976534	0.8774621	0.8984593
Phase-1 RCT-287	0.67480993	0.71058196	0.7897046	0.5213224	1.3006357	1.1587769	1.4048624	1.099251	1.1587769	1.2650121	1.0039735	1.3120021
Retinol-binding protein (RBP)	0.6543437	0.67748605	0.7242827	0.8311294	1.0094128	0.9236221	1.0433558	1.079841	0.9065646	0.8000562	0.7818183	0.78474104
Very long-chain acyl-CoA synthetase	0.7428927	0.7331303	0.86523214	0.9511736	1.1573275	1.1749185	1.186245	1.2165044	1.0414625	1.1965708	0.85564544	1.0511392
Synectin-1	0.97289198	0.9445125	0.9946956	0.9412815	0.9803015	0.9803015	0.9803015	0.9803015	0.9803015	0.9803015	0.9803015	0.9803015
Sludrin	0.9787033	1.2005498	1.0518095	1.2509544	1.066833	1.066833	1.066833	1.066833	1.066833	1.066833	1.066833	1.066833
Phase-1 RCT-145	0.6535988	0.8354813	0.4635893	0.55267817	1.013515	1.0307946	1.0016555	0.89147636	0.9278125	0.9223046	0.9726594	0.8529661
Adin	0.6807467	0.8221394	0.7813594	0.708684	0.97900183	0.8150465	1.0012864	0.98252475	0.9637346	0.923159	1.0011289	0.8673949
Phase-1 RCT-489	0.4089532	0.45735003	0.7813594	0.708684	0.97900183	0.8150465	1.0012864	0.98252475	0.9637346	0.923159	1.0011289	0.8673949
Sarcosine/reticulum calcium ATPase	0.8336273	0.7706865	0.5716918	0.95470357	0.8127775	0.781018	0.75127655	1.0257131	0.9687135	0.87405163	0.83316864	0.7777333
Alpha-2-macroglobulin, sequence A1	1.1313006	1.2013448	1.0251052	1.2979595	0.8495037	1.0167119	1.082109	1.0024334	0.9796972	1.0453266	1.1053118	0.92694265
Phase-1 RCT-204	1.0817458	1.0452117	0.44816706	0.82592633	1.0655677	0.9852476	1.0886897	1.1356523	1.0042811	0.9865986	1.123137	1.0402889
Vascular endothelial growth factor	0.63121895	1.0289357	0.8029274	0.7760947	1.2033482	1.2194312	1.0507338	0.94355947	1.1168	0.8944763	1.031399	0.852132
NADP-dependent isocitrate dehydrogenase, cytosolic	0.8733835	0.6309607	0.6427165	1.3291136	1.1796921	1.2150329	1.6910637	1.2588832	0.9999597	0.8586028	0.82494915	0.8792028
DNA binding protein inhibitor ID2	0.62652816	0.5742738	0.3086659	0.3384722	2.0397813	1.4118912	1.5959905	1.427603	2.2063316	1.3711326	1.278678	2.2685572
Glutathione S-transferase Ya	1.0633128	0.6799889	1.1345613	0.72589135	1.3642807	0.67575605	0.20785289	1.8112524	0.9717684	0.3197622	0.5255397	0.9745987
Enolase bryonase	0.482073	0.6794755	0.5825745	0.48817667	1.0623946	1.1509728	0.985795	0.7844418	1.3903153	1.1205053	1.218578	0.9745987
Insulin-like growth factor I	2.6919777	2.1067755	2.818956	1.8140781	0.9182323	0.97326165	1.3476879	1.0188066	1.1057668	1.4800424	0.8634739	1.1742477
Prostaglandin H synthase	1.0303587	1.2238114	1.451134	1.0553949	1.192858	1.0619916	1.3376527	0.95863975	0.95863975	0.95863975	0.95863975	0.95863975
Phase-1 RCT-138	0.5958925	0.6146055	0.7637556	0.5137268	0.652875	1.126751	0.857291	0.8764715	1.0245737	0.9739157	0.9739157	0.9739157
Phase-1 RCT-137	0.38226	1.138457	0.7933222	0.9830235	0.98401367	1.0520701	0.9728292	0.8655941	1.1015361	0.87515446	0.86049753	1.2234038
Phase-1 RCT-138	0.38226	1.138457	0.7933222	0.9830235	0.98401367	1.0520701	0.9728292	0.8655941	1.1015361	0.87515446	0.86049753	1.2234038
Hepatic lipase	0.5948653	0.6043494	0.5872713	0.6825987	1.139385	1.072698	1.0431303	0.8067633	0.81202036	0.96140003	0.79981124	0.9150425
Phase-1 RCT-164	1.2334721	1.2401283	0.9120096	0.89232227	1.3776314	1.3828996	1.2250646	1.1397808	0.94182035	0.9178359	0.9994004	0.97155146
Acyl-CoA dehydrogenase, medium chain	0.6677019	0.712811	0.775442	0.5165029	1.002022	1.045547	0.980038	1.0607411	1.1197267	1.1671416	1.0067257	0.9833507
Glutathione S-transferase Yb2 subunit	1.2352545	1.5200619	1.6568352	1.1825914	1.5119184	1.4417254	1.4713197	1.3244677	1.0011882	1.0267045	1.0267045	1.0267045
Carbonyl reductase	2.2845058	1.6922746	1.3338544	1.675211	0.9844534	1.2743556	1.4713197	1.3244677	1.0011882	1.0267045	1.0267045	1.0267045
Phase-1 RCT-168	1.0755028	1.204867	1.6665117	0.979434	1.8978172	1.4381871	0.8331493	0.8884536	0.928714	0.93513074	0.9716432	0.8078976
Apolipoprotein E	0.48026558	0.28743702	0.459633	0.5707555	1.1083245	0.79125	0.8331493	0.8884536	0.928714	0.93513074	0.9716432	0.8078976
UDP-glucuronosyltransferase	0.7639052	0.61743116	0.5620318	0.6427352	1.0394063	0.89634866	1.1938081	1.685593	1.8312253	1.0265228	0.8078976	0.9716432
Glutathione S-transferase P1	1.2373914	1.2270758	2.6718326	1.430237	1.332314	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186
Glutathione S-transferase P1	1.2373914	1.2270758	2.6718326	1.430237	1.332314	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186
Glutathione S-transferase P1	1.2373914	1.2270758	2.6718326	1.430237	1.332314	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186
Glutathione S-transferase P1	1.2373914	1.2270758	2.6718326	1.430237	1.332314	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186
Glutathione S-transferase P1	1.2373914	1.2270758	2.6718326	1.430237	1.332314	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186
Glutathione S-transferase P1	1.2373914	1.2270758	2.6718326	1.430237	1.332314	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186
Glutathione S-transferase P1	1.2373914	1.2270758	2.6718326	1.430237	1.332314	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186
Glutathione S-transferase P1	1.2373914	1.2270758	2.6718326	1.430237	1.332314	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186
Glutathione S-transferase P1	1.2373914	1.2270758	2.6718326	1.430237	1.332314	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186
Glutathione S-transferase P1	1.2373914	1.2270758	2.6718326	1.430237	1.332314	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186	1.1281186
Glutathione S-transferase P1	1.2373914	1.2270758	2.6718326	1.430237	1.332314	1.1281186	1.1281186</					

Phase-1 RCT-3	1.262346	1.3585153	0.9983707	1.280729	0.8878507	0.9565361	0.9730435	0.9155775	0.9072259	0.9774432	0.892228	1.0548735	0.9972836	0.9153502
Felin beta (Felin)	0.680045	0.76015824	0.8682481	1.3571602	1.3277674	1.4895106	1.36231	1.26368	1.0542678	1.2774665	0.94117674	0.9813339	1.2477227	0.98342736
3-hydroxyanthranilate dehydratase	0.7358413	0.6118841	0.8764586	0.9769871	1.051051	1.06331	0.9635435	0.9736345	0.8996145	0.9417648	0.96174831	1.10117	0.98342736	0.98342736
Carbonic anhydrase III, sequence 2	0.6906189	0.6906189	0.6906189	0.6906189	0.6906189	0.6906189	0.6906189	0.6906189	0.6906189	0.6906189	0.6906189	0.6906189	0.6906189	0.6906189
Phase-1 RCT-10	0.6156141	0.6590483	0.7639845	0.6914038	1.1270001	1.0537101	1.0883368	1.142098	0.9301184	0.8940015	0.86227014	1.146491	0.94614823	0.94614823
Alpha-2-microglobulin	0.47982396	0.4273912	0.24783957	0.36193336	1.5072446	1.1688751	1.340989	1.034212	0.8894201	1.231918	1.6917484	1.156409	1.178398	1.178398
Dynamin-1 (D100)	0.9400988	0.89042175	0.5450002	0.6571203	0.8978789	1.1655233	0.93024285	0.90797563	0.9352358	1.018458	0.901681	0.8991753	1.2009775	0.82158256
Lysozyme	1.8840088	0.89042175	1.1548314	1.3317417	0.8198888	1.1655233	0.93024285	0.90797563	0.9352358	1.018458	0.901681	0.8991753	1.2009775	0.82158256
Phase-1 RCT-252	0.52398403	0.571209	0.33120272	0.3181222	0.8812636	0.9765232	0.9575232	0.9575232	0.9575232	0.9575232	0.9575232	0.9575232	0.9575232	0.9575232
Phase-1 RCT-278	0.90477383	0.8882974	1.1688082	0.8721113	1.2025443	1.1894538	1.2673362	0.8975806	1.2222558	1.2422477	1.013301	1.1544433	0.9070061	0.92020283
Phase-1 RCT-42	1.15392	1.3758753	1.2235764	1.1875963	1.1865972	1.0478749	1.022268	0.90571785	0.9536871	1.064057	1.0818276	0.9426761	1.1341648	1.161094
Phase-1 RCT-25	0.8642038	0.765137	1.233728	1.4062022	1.0283441	1.5914791	1.193878	0.9075197	0.8833395	1.0133417	1.1354076	1.123808	1.2086888	1.0764303
Cytochrome P450 2C11	1.1440213	1.4682022	1.0283441	1.5914791	1.193878	0.9075197	0.8833395	1.0133417	1.1354076	1.123808	1.2086888	1.0764303	1.2086888	1.0764303
Phase-1 RCT-202	1.2017257	1.0056887	1.6071897	1.249335	1.109646	1.230331	1.033273	0.8423495	1.0419535	0.9740531	0.96870405	1.0874332	1.2978419	1.2978419
Complement factor 1 (CF1)	1.3891848	0.96045068	1.341481	1.2147068	1.2879127	1.5620657	1.094637	1.1698159	1.080467	1.0730444	1.060568	1.0893556	1.0287287	1.123764
Proliferating cell nuclear antigen gene	2.2322688	2.350112	1.6404048	1.6404048	1.6404048	1.6404048	1.6404048	1.6404048	1.6404048	1.6404048	1.6404048	1.6404048	1.6404048	1.6404048
Activating transcription factor 3	1.0320184	0.9634468	0.9562978	1.004082	0.844397	0.9757328	1.0451201	0.98397696	1.0359508	0.9642841	1.0072322	1.0071753	1.009655	0.9193827
Focal adhesion kinase (p125FAK)	0.791154	1.077592	0.632785	0.660202	0.1613065	0.96617866	0.9535328	1.0071944	0.9950994	1.0307768	1.0353521	0.9744598	1.030306	1.017489
Phase-1 RCT-269	0.92008275	1.1662891	1.0940374	1.586587	0.9082191	0.978485	1.0321483	0.9758684	0.99347216	0.9975887	0.9539441	0.9732607	0.9606344	0.8743857
Iron-responsive element-binding protein	0.430877	1.735312	1.3065981	1.220935	1.0088817	1.3390242	1.1774933	1.3408306	0.9577502	1.217902	1.2196358	1.2455714	1.0230068	1.1611635
MHC class I antigen RT1.A10 beta-chain	0.69005576	0.4076282	0.4845466	0.439668	0.1039125	0.93231267	0.67336833	0.57277861	0.6655465	0.6503314	0.71722126	0.7744424	1.029528	0.88180258
21H sulfatase	0.65388108	0.94320905	0.7741941	0.8123475	1.4884051	1.3013288	1.6597757	1.1734521	0.9601462	0.9562914	0.9562914	0.9562914	0.9562914	0.9562914
Phase-1 RCT-111	0.8654317	0.9038514	0.5434355	0.80765466	1.210597	1.0391792	0.9020514	0.9761489	1.0063341	0.92220216	0.9562914	1.1040728	0.9597958	0.8235101
Phase-1 RCT-43	0.63035	0.6348713	0.8087534	0.6133242	0.963721	0.955252	0.7021761	0.9167168	0.926881	0.9112636	0.8713937	0.8495294	0.9855375	0.94040185
Colony-stimulating factor-1	0.92059405	0.6981185	0.8334828	0.9374054	0.950169	1.0203954	1.0201116	1.045715	0.9678455	0.95253277	0.8959537	0.8230288	0.89540255	0.7643828
N-cadherin	1.3507984	1.240953	1.155272	0.8623747	1.050051	1.2039564	1.0201116	1.045715	0.9678455	0.95253277	0.8959537	0.8230288	0.89540255	0.7643828
Phase-1 RCT-82	0.74980474	0.8164732	0.8003647	0.91853603	2.073538	1.8037389	2.1894891	1.0964545	1.0150167	0.89776394	0.8252026	0.9427761	0.92533806	0.925454
Phase-1 RCT-22	1.048969	1.1033782	1.2006358	1.0603595	1.1253142	1.1207608	1.1681811	1.0784132	0.89776394	0.8252026	0.9427761	0.92533806	0.925454	0.925454
AT-3	0.9537786	1.074381	1.1037382	1.1821375	0.7742354	0.9243495	0.97063386	0.9644985	0.9413287	0.86670168	0.832455	0.8635016	0.91384816	0.9201775
Phase-1 RCT-18	0.8659601	1.2079889	0.99119014	1.0874424	0.9343495	0.97063386	1.0484549	0.96934414	0.9226731	0.93053774	0.96033406	0.9238809	0.93078023	0.8459189
Phase-1 RCT-123	1.0533668	1.214826	1.1031317	1.356416	0.97276346	1.0026866	1.0484549	0.96934414	0.9226731	0.93053774	0.96033406	0.9238809	0.93078023	0.8459189
Phase-1 RCT-56	0.6240297	0.9233355	0.5691347	0.6795893	1.029664	0.92807895	0.93584347	1.1538245	0.9167308	1.1710923	1.1928831	0.93195254	0.8015318	0.68833427
Equilibrative nitrobenzylthioinosine-sensitive nucleoside transporter	0.8096347	0.97634417	0.509055	0.772787	1.1795665	0.9044288	0.91685203	0.83403824	1.0111387	0.8059216	1.1103446	1.0088708	0.9331787	0.918757
Glucose transporter 2	1.0452044	0.61668954	0.8643968	0.5028842	0.8831169	0.93231225	0.90271485	1.1677964	0.71348766	0.8455133	0.7797424	0.9651485	1.0344114	1.0562532
Multidrug resistant protein-2	1.5835918	0.3877923	1.7852443	1.645482	0.8404755	1.2027162	1.017589	1.3317989	1.0422657	1.1069646	0.9692552	1.4507631	1.2976723	1.584338
Multidrug resistant protein-1	2.107254	1.3304681	2.0118957	1.787616	0.85703707	1.1743425	1.1707445	1.2568201	1.113374	1.2253904	1.0757436	1.195085	1.5021429	1.5021429
Phosphatidylethanolamine-binding protein	2.568446	3.4122664	2.591489	2.4507117	1.2487599	1.2396309	0.98743284	1.0897789	1.2644477	1.0533003	1.1578486	1.0885785	1.074038	1.1720525
Phase-1 RCT-180	1.2442576	1.8752687	1.7573256	1.5527829	1.1982739	1.2246317	1.379789	1.2715837	1.13168	1.2689193	1.0855484	1.007344	1.0326664	1.4301184
Integrin beta-4	2.201333	1.9904558	1.905023	1.515522	0.5927684	0.63502154	0.67811316	0.8263338	0.835719	1.0730983	0.9784935	0.9379245	0.8766497	0.97381276
NADPH cytochrome P450 oxidoreductase	3.349488	3.8748348	2.5883364	2.5883364	0.9921904	1.0283495	1.278168	1.175575	1.2379413	1.2126868	1.116508	1.8814887	1.2672957	1.9575386
Endogenous retroviral sequence, 5' and 3' LTR	1.6312868	1.302933	0.9294265	1.456384	0.6385077	0.9009554	0.74837554	0.8563713	0.9157915	0.930866	0.9664678	1.430768	1.0287947	1.0288082
Phase-1 RCT-53	1.4885308	1.1910371	0.8573926	0.8262029	1.3940241	1.5782204	1.7902387	1.926541	1.0274132	0.930188	0.8021252	0.54440546	0.6358585	0.5322368
Phase-1 RCT-258	0.66175187	0.995054	0.8573926	0.806006	1.1176411	1.0582799	1.0201925	1.020881	0.938927	0.9644724	1.0074872	0.9794785	0.913385	0.9255027
Phase-1 RCT-240	1.0145985	1.2603684	0.8430095	1.0306053	1.037418	0.9611453	0.9876665	0.9416241	0.9855153	0.9792042	0.9549526	0.9310891	0.9798653	0.935177
Phase-1 RCT-54	0.847189	0.9263541	0.7915419	0.82277695	0.94065446	0.88664037	0.9486939	0.94946207	0.9876935	1.072488	0.9300326	1.0891448	0.9214785	0.9375821
Osteopontin	0.65664446	0.76538825	0.40623417	0.8038479	1.1092268	0.9284121	0.9459456	0.8915704	1.0448848	0.92287638	1.0150333	0.92843515	0.8116388	1.0324789
Organic anion transporting polypeptide 1	1.4282727	1.1095126	1.429187	0.7437346	1.2391268	1.0082593	0.8375205	0.8423517	0.8989604	1.1450701	0.941294	1.138879	0.9797114	0.988771
Phase-1 RCT-241	1.1017247	0.87135655	1.0286574	1.1100975	1.0174702	0.9474676	1.2046441	1.0035459	0.9715239	1.1826853	0.9844238	1.1593642	0.9808814	1.0538955
Tissue factor pathway inhibitor	1.3838491	1.3438711	1.1046622	1.1458532	1.015161	1.155245	0.8688738	0.8688738	0.8688738	0.8688738	0.8688738	1.027447	0.9955726	0.9683035
Cyclin-dependent kinase 4 inhibitor p27kip1 (allernale clone)	0.8233007	0.75960414	1.116894	0.4982658	0.88942823	0.9230691	0.7541781	1.0502292	1.2400888	0.9763734	1.1464895	1.0612297	0.8926288	0.89941497
Phospholipase D	1.0514085	1.0419085	1.2316091	1.5113347	0.7480894	0.688873	0.891782	0.8502762	0.9088484	1.0091866	0.845316	0.8109726	0.60854167	0.60854167
Phase-1 RCT-39	0.85136217	0.9748794	0.86841093	0.995698	1.077635	1.00733	0.9079878	1.4427268	0.9229092	1.0950481	0.951811	2.371335	1.8647689	1.765604
Phase-1 RCT-113	0.9514102	0.94607758	1.108847	0.8955346	1.076986	1.198535	1.282198	1.0514834	0.89972636	0.9313848	0.9442715	0.9589719	1.0263069	1.0263069
Phase-1 RCT-113	1.3874704	1.3808446	0.9793006	1.3259488	0.9793383	1.142819	0.9876193	0.9676761	0.898	1.0238101	1.0403292	1.2108659	1.0208243	1.0435847
Adenine nucleoside translocator 1	0.91732484	0.82730113	0.6886891	0.8325163	0.7981487	0.8075935	0.8263667	1.037868	0.751033	0.8372226	0.6081164	0.9534563	1.0131316	1.0778349
Alpha-1 acid glycoprotein	0.6509331	0.5073316	0.2301596	0.6213747	1.3418378	1.3495407	1.0290672	0.9708566	0.9183784	0.8811256	0.9440592	1.985146	1.854523	1.2261888
MHC class II antigen RT1.B-1 beta-chain	1.1009408	1.0223901	1.060913	0.9600432	1.0011107	0.65904908	0.4671045	0.6278452	0.9755528	0.5134073	0.5402661	0.9742558	0.735004	0.735004

Organic cation transporter 3	0.68554894	0.7271667	0.51789745	0.8204596	1.117176	1.1168022	1.4122303	1.0411382	0.944313	1.1208323	0.9772621	0.82588513	0.78140414	1.1008979
Hypoxia-inducible factor 1 alpha	1.3811337	0.5180661	1.1214864	0.7088825	0.9880797	0.8882411	0.7179383	1.2303857	1.0116357	1.01164053	1.0435949	1.0584939	1.0261622	0.8141167
Phase-1 RCT-43	0.9428714	1.0764484	0.7765245	0.30152745	1.1442614	1.156794	1.0033189	1.1584151	0.8174691	0.85288844	0.7830489	0.9857174	0.8274149	0.8224149
Phase-1 RCT-45	0.8051843	1.126388	0.8944705	0.81683004	1.0509778	1.1557284	0.8141105	1.0407311	0.92203754	0.97102836	0.87699	1.0074423	0.95933234	0.9242866
Malate dehydrogenase, cytosolic	0.7645378	0.77004236	1.0912955	0.7628886	1.1821392	1.306876	1.2460466	0.9046779	0.96781437	1.0121143	1.0856534	0.8557958	1.1300695	1.2515558
VL30 element	0.9695491	0.8257926	0.6546513	0.47086278	1.3616395	2.307872	2.8532068	1.8977772	1.3495748	0.7682107	0.86744267	0.2205384	0.5697273	0.4995103
Phase-1 RCT-189	0.6465153	0.7383066	0.67419185	0.43758273	1.3345271	1.3831219	0.927601	0.9132508	1.4106131	1.0343769	1.3175889	1.2864108	1.2545462	1.214932
Alpha-fetoprotein	0.7962147	0.7204904	0.8540148	0.80702328	0.8944751	0.87947595	1.0094959	0.9539669	0.871577	1.0031041	0.8300372	1.0144621	0.87764144	1.1263125
Calgranulin B	0.63317317	0.55591438	1.2319995	0.5712426	1.1410139	1.0056098	0.8134155	0.9623921	1.0310227	1.2100357	1.1849118	1.028953	1.2354156	1.0645167
Tissue plasminogen activator	0.97943386	0.7169507	1.0920096	1.0563987	1.1009556	1.0435485	1.0817153	1.0141226	1.0714087	1.0357445	1.0286754	1.0918027	0.92757964	0.96517295
Phase-1 RCT-195	0.73934406	0.6597861	1.106229	0.66819457	0.924049	1.0090712	0.836307	1.0145442	1.025849	0.9247297	0.9904101	0.85322427	1.1485465	1.1178883
Liver fatty acid binding protein	0.45373502	0.5824366	0.28161848	0.40439443	0.8947623	0.8444495	1.0373129	1.0518979	1.1171183	1.0117592	0.91337323	0.9235354	0.6884979	0.83044034
Alpha-1 microglobulin/bikunin precursor (AmBp)	0.88030976	0.7851071	1.3181418	1.0382215	1.181173	1.1730818	1.1417236	0.9590226	1.1908444	1.034152	1.1595669	0.99711905	1.2380564	1.3006922
Phase-1 RCT-181	1.2559074	1.2763184	1.4836444	1.090705	0.8101049	0.853188	0.8317578	0.91231485	1.0312426	0.93131864	1.0316078	0.89416876	0.970854	0.940107
Phase-1 RCT-181	1.0952965	1.3243518	1.2579085	1.5136884	1.1128789	1.0685163	1.0987273	0.9267174	1.0607349	0.9494041	1.0001954	0.9013015	0.9065002	1.0118625
Phase-1 RCT-221	1.3882629	1.4590089	1.1718903	1.7792407	0.8271152	0.9441873	0.95172364	1.1051103	0.97053076	1.0444762	0.8901289	1.163866	1.0788289	1.020813
Phase-1 RCT-225	0.866753	0.97916793	0.7351127	1.266469	1.149895	1.1052143	1.2413903	1.1519845	1.1374173	0.9908309	1.0092374	1.1632727	0.8120102	0.5907652
Organic anion transporter 3	0.6973359	0.8716761	0.55319184	0.5381737	0.99378085	1.0552432	0.991417	1.3451985	0.9308853	0.8195172	0.7955278	0.9630857	0.75105083	0.77638406
Matrix metalloproteinase-1	0.9515091	0.8090774	1.0390791	0.7446124	1.2761682	0.79709184	0.8444276	0.72139408	0.91021734	1.1722893	0.92010754	1.1197848	1.3231108	1.005603
Ureapex protein 2 precursor	0.78346586	0.67704034	0.66327715	0.964018	0.87659834	1.6128212	0.8481766	1.5633832	0.88822474	0.61320807	0.83509268	0.85750326	0.8918538	1.035769
Phase-1 RCT-212	0.39163977	0.4527652	0.17533506	0.28704858	1.1325573	0.83482953	0.99934737	0.76060677	1.0598806	0.79407858	0.7439329	0.84426564	0.7618801	0.6387593
	1.073952	1.2615035	0.6664614	0.88406434	0.97652584	1.0290979	0.96800404	0.8021106	0.83428825	0.95322807	1.0466273	0.8778644	0.9374952	1.068466

(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 18).

(2) Compound and dose abbreviations as in Table 1.

(3) Individual animal number

(4) Liver inflammation classification for compound-dose group at 72 h: yes=ncr, necrosis observed; yes=ncr, necrosis with inflammation observed; no, no histopathology observed

(5) Predictive gene (as in Table 18 and as included in Table 26)

Table 28

Table 26. Expression Data for 6 Hour Timepoint (1)													
Compound/Dose (2)	PHEN 20	PHEN 20	PHEN 20	PHEN 20	PHEN 20	PHEN 20	PHEN 20	PHEN 20	PHEN 20	PHEN 20	PHEN 20	PHEN 20	PHEN 20
Animal Number (3)	1321	1322	1323	1331	1332	1333	141	142	143	21	22	23	24
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)													
Insulin-like growth factor binding protein 1	1.0111321	0.97696165	1.0899327	1.1592891	1.1772097	1.1429492	1.089308	1.242253	0.9622701	0.95610136	0.90716624	1.0404902	1.4577765
Gad65	1.089571	1.1965702	1.2666667	1.1693778	0.9951903	1.1755555	0.8397576	0.92665046	0.904284	0.71330714	0.75357753	0.71639894	1.0073354
Insulin-like growth factor binding protein 2	1.1015917	0.86513835	1.4398625	2.1121607	1.3771723	1.3630114	1.3630114	1.1729271	0.7016948	0.62925	0.6491546	0.5004997	0.73816705
ILK	0.9701211	0.7228745	0.8878652	1.452253	1.2983318	1.5168068	1.6103949	1.0817279	0.6080397	0.90759795	0.77798814	0.8523917	0.94763356
Caldesmon L sequence 2	1.3657697	1.2381506	1.9901432	1.0156022	1.1912068	1.6103949	1.6103949	1.130662	1.5772721	1.5772721	1.5459511	1.6601537	2.8350549
Heme oxygenase	1.3332298	0.9910514	1.4125056	1.9574106	2.1336405	2.64149	1.9574106	1.9574106	1.0043320	1.373398	1.065577	2.917167	1.071746
Phase-1 RCT-108	0.971368	0.9813652	0.8132651	1.1370568	1.0817722	1.054768	0.898913	0.898913	0.898913	0.898913	0.898913	0.898913	1.518066
Phase-1 RCT-111	1.0472898	0.9489799	0.9516796	0.94467974	0.94467974	0.94467974	0.94467974	0.94467974	0.94467974	0.94467974	0.94467974	0.94467974	1.602427
Argininosuccinate lyase	0.9521145	0.9369346	0.9689704	0.8998801	0.8998801	0.8998801	0.8998801	0.8998801	0.8998801	0.8998801	0.8998801	0.8998801	1.602427
DNA polymerase beta	0.9542492	0.944806	0.9276092	0.9542492	0.9542492	0.9542492	0.9542492	0.9542492	0.9542492	0.9542492	0.9542492	0.9542492	1.444491
Phase-1 RCT-103	0.96067184	1.1890321	0.6584054	0.40820047	0.63671815	0.5623345	0.95637345	0.9470715	0.8573803	0.721572	1.005432	1.2881924	1.3586414
Ribosomal protein S9	1.0236068	0.8733866	0.965862	1.5733129	1.1972398	1.0406813	1.0012579	1.0775589	0.9184352	0.962354	0.9444876	0.9121665	0.99100045
Phase-1 RCT-114	3.5297544	1.0651319	2.314962	1.534768	2.171104	2.1253123	0.9818975	0.706243	0.9432314	1.1345271	1.3534527	1.3052691	1.1275668
Phase-1 RCT-15	1.0706942	1.2533404	1.3295642	1.456981	1.7901107	1.3821354	2.942898	1.9564955	1.4132471	0.5718145	0.779672	0.554804	2.1508055
Macrophage inflammatory protein-2 alpha	0.60903597	0.52731556	0.59482676	0.44125336	0.49057007	0.5694096	0.53515503	1.3151006	0.9104847	0.7925483	1.2518446	0.8924394	1.0145393
NGF inducible anti-proliferative putative secreted protein (PC2)	0.42848608	1.0340756	0.559794	0.62858194	0.9524826	0.8443108	0.81058013	0.7802751	0.87963307	1.1742803	1.2266552	1.060528	1.3263615
Phase-1 RCT-191	1.6574302	0.8856726	2.3567054	2.7658372	4.530354	4.580687	1.031037	0.9731618	1.0242326	0.9661697	1.540304	0.9170362	0.91813843
Phase-1 RCT-43	0.9805002	1.1262715	1.074286	1.9721043	1.1352583	1.1806612	1.4071414	1.2208945	0.960835	0.960835	0.960835	0.960835	1.04597
Cyclin D3	0.9854082	0.9260107	0.8590578	1.0522862	0.9058167	0.8424695	0.8424695	0.8424695	0.8424695	0.8424695	0.8424695	0.8424695	1.7817843
Phase-1 RCT-108	0.47500445	1.4357204	0.8457402	0.8546004	0.4367131	0.9166735	0.9166735	0.9166735	0.9166735	0.9166735	0.9166735	0.9166735	0.9166735
Phase-1 RCT-75	1.0815539	1.0353265	0.907935	1.0228355	0.9167735	0.9167735	0.9167735	0.9167735	0.9167735	0.9167735	0.9167735	0.9167735	0.9167735
Phase-1 RCT-192	1.0436015	0.82159265	0.9822675	1.560634	1.1915759	1.1472989	0.90457264	0.8147006	0.86028934	1.0417214	0.98120053	0.98120053	0.98120053
Acyl-CoA carboxylase	1.42627	0.7662783	0.7422518	0.840323	0.7587541	0.6527684	0.8102191	0.8965354	0.9275374	0.9275374	0.9275374	0.9275374	0.9275374
Phase-1 RCT-85	0.90393317	0.7637793	0.7422518	0.840323	0.7587541	0.6527684	0.8102191	0.8965354	0.9275374	0.9275374	0.9275374	0.9275374	0.9275374
Cystatin C	0.8324863	0.9985219	0.8275436	1.4815218	0.9678034	0.9526372	0.9678034	0.9678034	0.9678034	0.9678034	0.9678034	0.9678034	0.9678034
Phase-1 RCT-49	0.8601384	0.9219841	1.0275436	1.4815218	0.9678034	0.9526372	0.9678034	0.9678034	0.9678034	0.9678034	0.9678034	0.9678034	0.9678034
Phase-1 RCT-9	1.139858	0.71701396	1.0003709	0.6005903	1.1336363	0.9153129	0.767315	0.767315	0.767315	0.767315	0.767315	0.767315	0.767315
Phase-1 RCT-156	1.1212214	0.96015755	1.5476843	1.5847263	1.5324737	1.486564	1.276558	1.1800238	0.6598949	0.6598949	0.6598949	0.6598949	0.6598949
Collin	0.87888837	0.9595298	0.7068914	0.65258846	0.7482384	0.62909317	0.78890754	0.6972555	0.65500837	0.690619	0.88262874	0.9128111	1.012678
Phase-1 RCT-127	1.1570742	1.12839	0.8396255	0.5626027	0.78511625	0.9511941	1.046745	1.2069931	0.95483273	1.096938	1.1801685	1.3372662	1.0910318
Macrophage inflammatory protein-1 alpha	1.1731942	0.9746364	0.8530269	0.933747	0.885063	1.2648574	1.1041768	0.97028404	1.0212334	1.0907197	1.0281411	1.0535955	0.81332725
Phase-1 RCT-73	1.1438026	0.9090008	1.265097	1.3338223	1.1280813	1.1837777	1.2680744	0.95602685	0.7711137	0.72657835	0.7681262	0.62824145	0.8272222
Zinc finger protein	0.9719077	0.8655585	0.7154384	0.6947008	0.6602457	0.74729555	1.0905089	1.1827235	0.9739215	0.9433515	0.7016313	0.60373163	0.8245552
Phase-1 RCT-73	1.2394292	0.9733691	1.240943	0.86233045	1.2640785	1.1449663	1.0211553	1.0926327	0.9739215	0.9433515	0.7016313	0.60373163	0.8245552
Glutamine synthetase	0.94774664	1.338546	0.7741242	0.65666781	0.9773953	0.8909148	1.0048411	1.0304278	1.163315	1.265834	1.3814272	1.225917	1.0666547
Cal-binding protein	0.7314584	0.9471621	0.6890364	0.6979506	0.5242738	0.53061243	0.53061243	0.53061243	0.53061243	0.53061243	0.53061243	0.53061243	0.53061243
Phase-1 RCT-242	1.0337737	0.9905266	1.1379157	1.4740561	1.1379157	1.1379157	1.1379157	1.1379157	1.1379157	1.1379157	1.1379157	1.1379157	1.1379157
Phase-1 RCT-60	1.1930429	0.9504005	1.4900586	1.4330428	1.8234862	1.1987605	1.0434972	0.9343717	0.9343717	0.9343717	0.9343717	0.9343717	0.9343717
Phase-1 RCT-103	0.86473244	1.053152	0.5931522	0.40093756	0.5484143	0.8542034	1.6656335	1.0033205	1.1197953	0.92796385	0.894616	1.2072868	0.8534307
Exon junction factor-1 alpha	1.0932711	1.0416279	1.4231727	1.6306949	2.2487478	1.6656335	1.0033205	1.1197953	0.92796385	0.894616	1.2072868	0.8534307	0.8534307
Integrin beta3	1.1820804	0.7652866	1.122568	1.2228698	1.228698	1.2861444	1.4635	1.625322	0.9081317	1.0034807	1.1143671	1.1607536	1.1952777
Insulin-like growth factor binding protein 6	1.0833652	1.024917	0.917081	1.0365509	1.0070539	0.950058	1.0884624	1.099504	1.0034807	1.1143671	1.1607536	1.1952777	1.1952777
Phase-1 RCT-59	1.035732	0.9622966	0.7566598	0.96824753	0.8370369	0.9328317	0.7887555	0.68523135	0.8289716	0.9421683	0.88846756	1.049376	1.089528
Phase-1 RCT-76	2.263105	1.0329417	1.781236	1.2240729	1.870612	1.9226501	1.1510612	1.2411466	1.1021698	1.268814	1.5011648	1.3525403	1.2644123
Phase-1 RCT-76	1.035732	0.9622966	0.7566598	0.96824753	0.8370369	0.9328317	0.7887555	0.68523135	0.8289716	0.9421683	0.88846756	1.049376	1.089528
Ferritin H chain	1.2451004	1.0482889	0.785249	0.5032202	0.6914837	0.98324525	1.100931	1.4238866	1.3380276	1.4262973	1.3952559	1.632508	1.242104
Phase-1 RCT-11	0.804508	1.011841	0.95785776	1.1653378	0.885379	0.9723288	1.0087623	1.3428742	0.8840968	0.8840968	0.8840968	0.8840968	0.8840968
Phase-1 RCT-11	1.0071084	0.8219892	0.799197	0.7887855	0.7302378	0.8677043	0.7928284	0.98399845	0.98399845	0.98399845	0.98399845	0.98399845	0.98399845
Phase-1 RCT-214	0.8768794	1.0810237	0.8057045	0.4806881	1.105424	0.90433913	1.0138153	0.80567825	0.1758457	0.1758457	0.1758457	0.1758457	0.1758457
Thymidine synthase	0.94244105	1.1756895	1.747616	1.128302	1.327286	1.327286	1.327286	1.327286	1.327286	1.327286	1.327286	1.327286	1.327286
Phase-1 RCT-13	1.1765426	1.647189	1.2489531	0.89156936	1.3820172	1.2946532	1.2946532	1.2946532	1.2946532	1.2946532	1.2946532	1.2946532	1.2946532
Nucleosome assembly protein	1.4712149	2.8556838	1.4712149	1.4712149	1.4712149	1.4712149	1.4712149	1.4712149	1.4712149	1.4712149	1.4712149	1.4712149	1.4712149
Cholesterol 7-alpha-hydroxylase (P450 VII)	1.0234778	1.5508861	1.3181542	1.014458	0.96834	0.96834	0.96834	0.96834	0.96834	0.96834	0.96834	0.96834	0.96834
Vesicular monoamine transporter (VMAT)	1.0354602	1.1912101	1.34507	1.4229612	1.0951056	1.2125905	0.897669	1.1837158	0.897669	1.1837158	0.897669	1.1837158	0.897669
Phase-1 RCT-260	0.77804196	0.9923354	1.0113965	1.1073278	1.1073278	1.1073278	1.1073278	1.1073278	1.1073278	1.1073278	1.1073278	1.1073278	1.1073278

Table 28

Phase-1 RCT-32	1.1432043	0.85519004	1.7381517	1.0038719	0.91714424	0.90861094	1.0538156	1.5510076	0.8031281	0.8110076	0.98011883	1.2231376
Peroxisome assembly factor 1	1.0322093	0.39440926	1.4234952	1.4229633	1.0537329	0.87259704	1.0022061	0.85335374	0.76731944	0.7708981	1.0260447	1.2696807
8-oxo-dGTPase DNA polymerase	0.99240484	0.92591345	1.2376398	1.0543523	1.1160218	1.0574931	0.91604406	0.98531925	0.8941674	0.8569114	0.9315564	1.0759021
Phase-1 RCT-42	0.9554222	0.9149705	0.9880241	1.2489845	0.9289653	0.947335	0.98985684	0.98531925	0.8941674	0.8569114	0.9315564	1.0759021
Matrix F10	0.9733269	0.7047668	0.8424853	1.2706137	1.0770461	0.9670224	0.77608234	0.85975255	1.1979508	0.8120259	0.8014531	1.2301239
Phase-1 RCT-184	0.667238	1.055461	0.6945646	0.5922131	0.40222323	0.8363973	0.89654204	0.89654204	1.2302681	1.2706137	0.8120259	1.2301239
Phase-1 RCT-188	0.8122817	1.1742411	0.8424688	0.867578	0.8763883	0.8039889	0.9990012	1.0997419	1.414046	1.3150602	1.3835264	1.3019238
Phase-1 RCT-119	0.8207686	1.139419	0.8021287	0.45551002	1.0477396	0.9370368	1.0710361	0.8772182	0.7260301	0.8911828	0.8972182	0.8972182
Carbonic anhydrase II	0.8942454	1.3900044	0.91977584	0.9586939	0.9168064	1.006728	0.7618667	1.0022895	0.8718575	0.8592319	0.8972182	0.8972182
Triphosphatase hydrolase	1.3704047	1.0670235	1.0393811	0.93139917	1.3333335	1.0765119	0.7785382	0.8356701	1.0666405	1.035578	1.035578	1.035578
Phase-1 RCT-71	0.73479474	1.0695449	1.0491613	0.9367803	1.0521528	0.9431556	0.9772986	0.9590571	0.9772986	0.93942038	0.9772986	0.9772986
Phase-1 RCT-178	1.2333217	1.0863875	1.0033563	1.0451742	0.9882843	0.8716875	1.0714098	0.95322876	0.9572983	1.275552	0.8594844	1.5742659
Phase-1 RCT-181	1.243147	0.91859404	1.3384517	1.3749713	1.5315013	1.2478894	0.73479474	0.97393057	0.8972182	0.8972182	0.8972182	0.8972182
Phase-1 RCT-144	1.0602763	0.8443131	0.9821653	1.155324	1.1839384	0.95088066	0.96884396	0.96884396	0.96884396	0.96884396	0.96884396	0.96884396
Phase-1 RCT-225	0.98910263	1.1743304	0.9821653	1.155324	1.1839384	0.95088066	0.96884396	0.96884396	0.96884396	0.96884396	0.96884396	0.96884396
Cytochrome P450 2E1	1.0474955	1.8851987	1.6501369	1.4741321	1.2321445	0.9038652	0.8076181	0.83107486	0.83107486	0.83107486	0.83107486	0.83107486
ID-1	0.9310074	0.836216	0.98423404	0.82561284	0.88133875	1.3318594	1.08808385	0.84812104	0.866828	0.8742351	0.86713405	0.8400168
Thiolase-1 (fict)	1.7213516	1.666462	0.7169766	0.509476	0.6897191	0.5762102	0.5153954	0.33561176	0.23945069	1.1618223	0.8981606	1.3633913
Carbonic anhydrase III	1.291413	0.897849	1.2201675	1.4555534	1.4337088	1.4059093	0.8546875	0.930335	0.8041814	0.90500337	0.7610446	0.64533397
Phase-1 RCT-140	1.0187558	0.8970587	0.8284253	1.3543318	0.5439027	0.57635394	1.011193	1.0776595	0.7848444	1.1679167	1.1743488	0.74021965
Complement component C3	0.7165887	1.7143583	0.8538668	0.43423048	0.42877805	0.5431609	0.67163704	0.72852475	1.0335818	0.6107243	0.8653339	0.5718501
Glucuronidase	1.0385271	0.8625189	1.1638668	1.0766687	1.2263881	1.1316431	0.6043281	0.8062475	0.95294668	1.0073977	0.81194204	0.5718501
3-methylglutaryl DNA polymerase	1.3800988	1.0622916	1.7572804	1.393452	2.604071	1.6593521	0.99634067	0.87623087	1.0342688	0.7999411	0.74301076	0.8328856
Phase-1 RCT-173	1.0454307	1.119119	0.8986624	0.80751714	1.2651827	1.0011668	1.083794	1.0023125	0.9851901	1.3533801	1.417047	1.5145717
Phase-1 RCT-40	0.8972715	0.80371233	0.72362816	0.4548604	0.67871816	0.8790188	1.1628911	1.1888967	0.821732	0.8916234	1.097505	1.2539204
Phase-1 RCT-1	0.8006571	1.1264955	0.96528046	0.18975109	0.3036773	0.46534927	0.42804542	0.9013901	0.4228843	1.0850809	0.75989504	0.8979005
Sensory marker protein-30	1.0575448	1.0698081	1.3911639	1.2799353	1.3911639	1.2799353	0.7984356	0.9744002	0.7445577	0.8847849	1.8917287	2.2594092
Cyclin G	0.80784	1.1525635	1.1610694	1.386257	1.0466366	0.9530944	1.135287	0.95511741	1.0840042	1.163345	1.1329628	1.096159
Melanoma-associated antigen ME491	0.99402434	0.94700445	1.8490992	1.4570205	1.2948193	1.02514	0.7100334	0.9520585	0.8219422	0.9544396	0.91903025	1.0607518
Phase-1 RCT-28	1.0872745	0.8453466	0.9675309	1.2970283	0.9046095	1.0784153	0.9303685	0.9303262	0.9432057	1.2324685	0.9757849	0.95475324
Alcohol dehydrogenase 1	0.47733928	1.1842629	1.4324944	0.43861338	0.40595848	0.58582378	0.82794961	1.6157636	0.3396964	1.0786114	1.049875	0.9850567
Stomach cell factor	0.8837266	1.036752	0.8941948	0.54953675	0.40595848	0.73273104	0.4953281	0.9225019	0.53557814	0.7758854	1.02783656	0.62283656
Phase-1 RCT-55	0.6625542	1.318015	0.855482	0.5701857	0.5559431	0.6825798	1.2737702	1.20875	1.0486513	0.9044825	1.098227	1.184555
Protein tyrosine phosphatase alpha	0.9011007	1.4044718	1.1533762	1.6973344	1.3376978	1.2352438	1.0271624	1.0486513	0.9044825	1.098227	1.184555	1.007625
Phase-1 RCT-155	0.8525771	1.261818	0.8332535	0.5310882	0.3505028	1.1776051	0.8549422	0.5763462	0.5243687	0.9102746	0.81695714	1.0833316
Uridine cytidine deaminase	0.9426815	1.0516057	0.8564334	0.6710243	0.6205058	0.80197973	1.1180228	1.0446289	0.97460013	1.1630497	0.7086651	1.1233687
DNA topoisomerase I	1.0304797	0.9969005	0.8371632	0.4094692	0.34469732	0.5962006	1.1216901	1.2442627	0.9236368	1.1730697	1.1526277	1.8907039
Phase-1 RCT-280	1.0695618	0.8594888	0.7294538	0.4489199	0.7083872	1.0215383	1.1479681	1.305789	1.1028528	0.97023237	1.0538455	1.1962618
Superoxide dismutase Mn	1.071405	0.8785446	1.118839	0.941356	1.1316545	1.2881518	1.4026873	1.1485211	1.4382559	0.9257294	1.3578448	1.086516
Beta-tubulin, class I	0.8373528	0.585431	1.153271	1.0958839	1.133395	1.1482376	0.62686	0.5676826	0.68453056	1.3149394	1.466263	1.288334
Carbamoyl phosphate synthetase I	0.8339611	1.128195	0.8268563	0.4460807	1.074106	0.93869726	1.5049605	1.2698846	1.8348632	0.716109	0.7266881	1.0019431
Disulfide isomerase	1.0407083	0.86594653	1.1687539	1.0187732	1.0679245	1.0143987	0.9018737	0.8467385	0.810681	0.83778495	0.7206578	0.98024255
Phase-1 RCT-141	1.1024103	1.2061467	1.1648794	1.6343912	1.0954407	1.3386052	1.5613988	1.2027136	1.0416032	1.1798837	1.0016094	1.464907
14-3-3 zeta	1.12992	0.9454905	1.4821098	1.4955721	1.4282246	1.355797	0.60705913	0.85002565	0.8192508	1.501281	0.71566385	1.312472
Gamma-actin, cytoplasmic	0.8038318	1.268891	0.73251887	0.6271025	1.0179112	0.60226565	0.44661602	0.9011876	1.0386633	0.9616071	1.0596282	1.3875971
Ribosomal protein L13A	1.4600055	0.90811807	1.2264652	0.9733213	1.2456899	1.6555851	0.888427	0.8172557	0.87375873	1.7495188	2.333353	1.8734444
Phase-1 RCT-55	0.9705361	1.0570719	0.773255	0.89331726	0.6319832	0.9149458	1.0289337	0.9716819	0.88724065	1.3880239	1.2048201	1.4732015
Phase-1 RCT-55	0.9735367	0.9166051	0.9180656	0.6280322	0.8747976	0.8800038	0.8343096	0.78158166	0.8521828	0.8271786	0.8403415	0.9884985
c-Jun	1.0440579	1.0323554	1.3579072	1.163718	1.7588337	1.3911863	0.9158442	0.9021527	1.128549	0.81717578	0.8685426	0.542882
Protein O-mannosyltransferase 1 (Pomt1)	0.96847904	0.8370483	1.4959221	1.1039135	1.8719682	1.8138878	0.6987553	0.70807403	0.86756025	1.394354	1.419873	1.0721742
HMG CoA reductase	1.0179899	1.0900193	1.2533758	1.2960616	1.1000133	1.3388398	0.8233638	0.78165943	1.014106	0.86272034	0.9156097	0.9608848
Phase-1 RCT-12	0.8683005	0.71343845	0.95041	1.4058164	1.2838875	1.1184177	0.7638723	0.7865661	0.84763844	1.2154886	1.3248321	1.227491
Interferon related developmental regulator IFROT1 (PC4)	0.8290552	0.718182	0.87022204	0.6316183	0.7334487	1.0183085	1.1218348	1.0183085	1.1218348	1.0183085	1.1218348	1.0183085
Glucose-regulated protein 78	1.1370102	1.1145056	0.8338366	0.8908543	1.068945	0.8214439	0.9589571	0.7829744	1.6359787	1.107016	1.3379899	1.2961355
3-hydroxy-3-methylglutaryl-CoA lyase (HMG-CoA)	2.663502	1.4742254	1.5543119	1.695762	2.782885	1.221976	0.8011006	0.8288512	0.8771747	1.0289881	1.1224988	1.331849
Casprase 6	0.9862551	1.0946555	1.26829	1.0062038	1.203263	1.0324869	0.8660926	0.7880365	0.7880365	0.806592	0.75945647	1.019783
Phase-1 RCT-169	1.0006067	0.8884655	1.0351144	0.6997022	0.8665228	0.73000456	0.68071915	0.720013	0.80505565	0.7454978	0.86775567	1.0006067
Phase-1 RCT-197	0.8972824	0.8365527	0.9353776	0.834303	0.78503543	1.1328113	0.9155529	1.1441749	0.9955719	1.2463375	1.3207566	1.0216105
Phase-1 RCT-34	1.1288456	1.0851885	1.1088041	0.9133645	1.2184882	1.2850336	0.89115895	0.88376516	1.1680322	1.1623788	1.5438939	1.3084048

Table 28

Phase-1 RCT-172	1.1133952	0.9821956	1.1927833	1.1539663	1.1450036	1.1946273	0.96189755	0.9588857	0.91069645	0.82374805	0.9081779	0.8022819	0.8558537	1.0062783
Proteinase kinase, muscle	1.2381573	1.0347295	1.1922473	1.1539663	1.1450036	1.1946273	0.96189755	0.9588857	0.91069645	0.82374805	0.9081779	0.8022819	0.8558537	1.0062783
Phase-1 RCT-178	0.8671398	0.9507099	1.1851331	0.8989564	1.1667205	1.0099355	1.1922473	0.96189755	0.9588857	0.91069645	0.82374805	0.9081779	0.8558537	1.0062783
Phase-1 RCT-180	0.9897728	0.9144981	1.1851331	0.8989564	1.1667205	1.0099355	1.1922473	0.96189755	0.9588857	0.91069645	0.82374805	0.9081779	0.8558537	1.0062783
Cytochrome P450 2C39 (alternate clone 2)	1.0357327	1.2539535	1.0934566	0.9653748	1.0931048	0.8937103	0.9650356	0.89167017	1.0143578	0.79539057	0.8214982	0.76701212	0.67050266	0.9765315
Phase-1 RCT-260	1.1879808	1.2539535	1.0934566	0.9653748	1.0931048	0.8937103	0.9650356	0.89167017	1.0143578	0.79539057	0.8214982	0.76701212	0.67050266	0.9765315
Methylglucyl-CoA racemase alpha	0.98461634	1.0423756	1.3718176	1.0047878	1.1278053	0.9638622	0.9158043	1.0088859	0.8598819	0.82759454	1.1246039	0.7234975	0.5944669	1.3918762
Phase-1 RCT-261	1.0253377	0.9470421	0.9278723	0.9165815	0.8347419	1.1657312	1.0052933	0.9343064	1.133986	0.861462	1.1519403	0.71159403	0.6239554	1.0012251
Methylglucyl-CoA racemase alpha	1.0135933	1.2205063	1.3995919	1.0165514	1.1324359	1.1758172	1.0052933	0.9343064	1.133986	0.861462	1.1519403	0.71159403	0.6239554	1.0012251
Cytochrome P450 1A2	1.2007958	0.95852077	1.2021941	1.1649418	0.9786043	0.7037684	1.1787912	0.9625922	0.8744723	1.1087912	0.9330031	1.1553528	1.2451797	0.923608
Monomine oxidase B	0.6429826	1.1572656	0.9360524	0.5843116	0.7869713	0.814805	1.1787912	0.9625922	0.8744723	1.1087912	0.9330031	1.1553528	1.2451797	0.923608
Phase-1 RCT-262	0.73524504	1.1762305	1.2805393	0.9610777	0.8656022	0.8744723	1.1087912	0.9330031	1.1553528	1.2451797	0.923608	0.6893438	1.156765	0.9943855
Peroxidase profliferator activated receptor gamma	0.8680874	1.0619979	0.8057815	1.2419884	1.1370323	0.94501634	0.9636531	1.0780122	0.9636531	1.0780122	0.9636531	1.0780122	0.9636531	1.0780122
Phase-1 RCT-143	0.908114	1.0619979	0.8057815	1.2419884	1.1370323	0.94501634	0.9636531	1.0780122	0.9636531	1.0780122	0.9636531	1.0780122	0.9636531	1.0780122
Phase-1 RCT-144	1.1351212	0.812662	1.2738613	1.0416884	1.1370323	0.94501634	0.9636531	1.0780122	0.9636531	1.0780122	0.9636531	1.0780122	0.9636531	1.0780122
Phase-1 RCT-117	1.1836549	0.76939454	0.8254055	1.2925429	1.1398587	1.395122	0.76939454	0.8254055	1.2925429	1.1398587	1.395122	0.76939454	0.8254055	1.2925429
Glutathione S-transferase theta-1	1.0217405	0.81827533	1.043757	1.0321689	0.7523338	0.71145064	0.840747	0.72811425	1.0148902	1.0217405	0.81827533	1.043757	1.0321689	0.7523338
Phase-1 RCT-81	0.9689095	0.837481	0.9705102	0.8206004	1.0652775	0.7518933	0.9635931	1.1534591	1.030274	1.1398587	1.395122	0.76939454	0.8254055	1.2925429
Phase-1 RCT-148	0.8649782	0.8972585	0.8519453	1.126999	0.7279817	0.7518933	0.9635931	1.1534591	1.030274	1.1398587	1.395122	0.76939454	0.8254055	1.2925429
Actin receptor type II	1.0549428	0.9402807	1.2456761	1.2895139	1.3550489	1.4493767	1.0549428	0.9402807	1.2456761	1.2895139	1.3550489	1.4493767	1.0549428	0.9402807
Glycine methyltransferase	1.0657388	0.9716207	1.2756662	1.0516429	1.2327732	1.2420002	1.0657388	0.9716207	1.2756662	1.0516429	1.2327732	1.2420002	1.0657388	0.9716207
Phase-1 RCT-281	0.97093594	1.03552	0.8767806	0.72361277	0.52998334	0.49527457	0.8767806	0.72361277	0.52998334	0.49527457	0.8767806	0.72361277	0.52998334	0.49527457
Ciliary neurotrophic factor	0.9038951	1.0951402	0.8765607	1.6329819	0.51844907	0.6947427	1.0951402	0.8765607	1.6329819	0.51844907	0.6947427	1.0951402	0.8765607	1.6329819
Gap junction membrane channel protein beta 1 (Gp1)	0.9935124	0.63377047	0.7590024	0.86086294	1.1368918	1.3008338	0.8515293	1.0653798	0.66503355	1.3870783	1.2691907	1.2636302	1.0560724	1.0103165
Phase-1 RCT-46	0.87262757	0.9257827	0.8012847	0.84079736	0.7277462	0.701987	1.0989672	1.135462	0.93373924	0.95927094	0.81321585	0.6604689	0.9354985	0.9599132
Phase-1 RCT-287	0.99601495	0.87353645	0.8205056	0.5976961	0.82469105	0.8330148	0.8642831	0.928817	0.75068475	1.2428519	1.2688679	1.4175656	1.1620063	1.0600054
Retinol-binding protein (RBP)	0.74397117	1.319217	1.7059709	0.4627034	0.6400554	0.5712596	1.1644539	1.1430331	1.3613298	0.7741677	1.5834922	1.4579244	1.3210815	1.2214819
Very long-chain acyl-CoA synthetase	0.81671134	1.2765094	0.8298952	0.89137443	0.7033424	0.7302688	1.0032881	1.1755319	1.3148559	0.9857834	1.2415271	1.4905001	0.8376394	0.81671134
Synectin-1	0.99644954	1.339937	0.8171903	0.48418366	0.77225525	0.748131	1.1958969	0.73720237	1.0032881	1.0094881	1.0274278	0.8175948	1.0714765	1.3394342
Phase-1 RCT-145	1.0794864	0.8789398	1.1895658	1.8433942	1.4073111	1.1589809	0.73720237	1.0032881	1.0094881	1.0274278	0.8175948	1.0714765	1.3394342	1.0794864
Actin	1.293706	1.2445963	1.1725503	0.5567091	1.1528099	1.2497531	1.1589809	0.73720237	1.0032881	1.0094881	1.0274278	0.8175948	1.0714765	1.3394342
Phase-1 RCT-49	0.8324138	0.8914983	0.8439488	0.8439488	0.8439488	0.8439488	0.8439488	0.8439488	0.8439488	0.8439488	0.8439488	0.8439488	0.8439488	0.8439488
Sarcoplasmic reticulum calcium ATPase	0.93502943	0.823312	0.801128	0.73542845	0.73542845	0.73542845	0.73542845	0.73542845	0.73542845	0.73542845	0.73542845	0.73542845	0.73542845	0.73542845
Alpha-2-macroglobulin, sequence A	0.8371521	1.086849	0.88742935	0.8734563	0.8105515	0.8658187	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881
Phase-1 RCT-204	0.54495954	1.2101953	0.7161207	0.3169204	0.49679053	0.84915077	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881
Vascular endothelial growth factor	0.96571235	0.9616961	1.1748432	1.0593974	0.9735341	0.85518774	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881
NAADP-dependent isocitrate dehydrogenase, cytosolic	0.91112721	1.1151897	1.0871968	0.91087437	1.5203102	1.0298163	0.8734012	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881
DNA binding protein inhibitor ID2	0.94756013	0.8442578	0.78342485	1.101536	0.6220579	0.6937524	0.89087796	1.0579951	0.865129	1.1327789	1.1327789	1.1327789	1.1327789	1.1327789
Glutathione S-transferase Ya	1.1102699	1.1721668	0.8589903	0.8779091	0.6087255	0.96863765	0.81568235	0.6615355	0.8290382	1.0609627	0.8779379	0.937698	0.9430669	0.8233175
Epoxide hydrolase	0.4984256	0.8904152	0.46268705	0.30241132	0.40591794	0.55682474	0.84492016	0.8183254	0.5363905	0.78440446	1.3252717	0.5643275	0.7985628	0.5710847
Insulin-like growth factor I	1.0871125	1.2621678	1.1428015	1.2359841	0.86450636	0.98247075	0.8302064	0.94461733	0.7578076	1.0037653	0.8948493	0.5977689	1.2561893	0.9865724
Phase-1 RCT-138	1.2073834	0.71102135	0.5843636	0.3423401	0.6807639	0.68224134	0.7032985	0.86051345	0.6075024	0.79777247	0.8331726	0.9735438	0.73609644	0.64571526
Prostaglandin H synthase	1.008346	0.7785915	0.8204725	1.599474	1.171131	1.304474	0.7434146	0.6097271	0.8700406	0.7033399	0.7153984	0.5910525	1.0765249	2.099136
Phase-1 RCT-138	0.93843536	0.908833	0.73951334	1.0530947	0.716372	0.7525065	0.9385676	0.9385676	1.756442	1.0693396	1.0043801	0.92692524	1.0620134	1.0582411
Phase-1 RCT-137	0.69861184	0.953128	0.8242636	0.4425807	0.4135021	0.30015537	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881	1.0032881
Hepatic lipase	0.8586883	0.93018166	0.863429	1.4336829	0.9861246	0.9960477	0.9402955	1.1397868	0.9602378	0.848183	0.7142714	0.7886871	0.5984128	0.6893102
Phase-1 RCT-164	0.602118	0.934968	0.8230816	1.801761	0.8412968	1.1041149	0.9889883	0.8242636	0.7224886	0.8025529	0.881823	0.97626077	1.0878857	0.9074896
Acyl-CoA dehydrogenase, medium chain	1.2992693	0.89466233	1.1801761	0.8412968	1.1041149	0.9889883	0.8242636	0.7224886	0.8025529	0.881823	0.97626077	1.0878857	0.9074896	0.9074896
Glutathione S-transferase Yb2 subunit	1.8716285	0.86136055	1.0705761	0.6105761	0.7925106	1.0375592	1.0123186	1.1253942	0.9956264	0.7823153	1.158814	1.3874804	1.1727345	0.7680979
Carbonyl reductase	0.9404785	1.063929	1.0328815	0.60946166	0.4345015	1.2625356	1.0345991	1.229764	0.9899253	1.1758172	1.115183	1.1540078	1.1727345	0.7680979
Phase-1 RCT-166	1.56933276	0.92817506	0.8881567	0.34806932	0.24575768	0.32712877	0.41365287	1.1903177	1.4963401	0.9057559	1.175183	1.1540078	1.1727345	0.7680979
Apoptin protein E	0.80244477	0.8891567	0.7305472	0.5072386	0.7756665	0.63732504	0.4982628	1.03254387	0.8254387	0.583635	0.3166337	1.8715321	1.3939263	0.9563254
UDP-glucuronosyltransferase	0.9797063	1.2353641	0.721614	1.3894157	1.6716712	1.0894295	0.64728124	0.65732163	0.8254387	0.583635	0.3166337	1.8715321	1.3939263	0.9563254
Glutathione S-transferase P1	1.025163	0.9510734	1.271614	1.3894157	1.6716712	1.0894295	0.64728124	0.65732163	0.8254387	0.583635	0.3166337	1.8715321	1.3939263	0.9563254
Disulfide isomerase related protein (ERp72)	1.115705	1.0268994	0.84148845	0.6871465	1.1072525	0.7686861	0.8045618	0.7625056	0.8637306	0.9824974	1.203688	0.9842674	1.203688	0.9842674
Ribosomal protein L13	1.452798	0.6878058	0.8525267	0.5850927	1.1314928	1.1774678	0.4002731	0.4002731	1.0303363	1.2395482	1.249137	0.8233336	0.8215281	1.0455773
Centrinotin	0.6271111	1.0040637	0.71988183	0.3948621	0.6765727	0.5838826	1.6463077	1.6463077	1.6463077					

Phase-1 RCT-3	1.2419602	0.9470186	1.5433484	1.5270722	1.8369633	2.0059	1.0959451	1.0541228	1.4915994	1.5781041	1.5255546	1.4023396	1.229468
Felin beta (felub)	1.5982136	0.84389704	1.0774494	0.7860397	1.818573	1.0760397	1.818573	1.2693778	1.3416851	1.5108287	1.4023396	1.0102	1.197839
3-hydroxyisovaleryl dehydrogenase	1.0643935	0.80772716	0.9591079	0.89440071	0.9609315	1.1212432	1.1212432	1.20272	1.0871594	1.1052545	1.1450252	1.1170238	1.391746
Carbonic anhydrase III, sequence 2	1.1974863	0.77550304	1.1386294	0.41119775	0.7535555	0.5811884	1.1386294	1.3987116	1.5495899	1.2077348	0.8548585	1.0081688	1.682376
Phase-1 RCT-10	0.8576065	0.65355234	0.6091372	0.6593756	0.59597767	0.6930271	1.016321	1.4076288	1.230793	1.6973534	0.9001025	0.8733813	0.9733813
Alpha-2-microglobulin	0.51837337	0.9435072	0.32788545	0.6780833	0.5894346	0.5817383	1.016321	1.4076288	1.230793	1.6973534	0.9001025	0.8733813	0.9733813
Dynactin-1 (D100)	0.119562	0.79577225	1.152332	1.3243297	1.1161467	0.8956577	1.1087668	1.1715716	1.2016274	0.9605014	1.2812828	1.2114749	1.0524637
Lysyl oxidase	1.0105428	1.1330013	1.4675129	1.5395381	0.99969994	1.2029099	1.1087668	1.1715716	1.2016274	0.9605014	1.2812828	1.2114749	1.0524637
Phase-1 RCT-252	0.84924257	0.697804	1.0571587	1.169005	0.84939755	1.4976618	1.2894374	1.7333623	0.8354127	0.7471234	1.0261983	0.6342852	0.673271745
Phase-1 RCT-29	1.38944151	0.8801816	1.6711055	1.0295761	1.5495265	1.0630225	1.0295761	1.5495265	1.0630225	1.0630225	1.0630225	1.0630225	1.0630225
Phase-1 RCT-278	1.3524005	0.72116166	1.2574205	0.9271466	0.97875476	1.1045982	1.1045982	1.1045982	1.1045982	1.1045982	1.1045982	1.1045982	1.1045982
Phase-1 RCT-42	1.0193301	0.6309203	0.6309203	0.6309203	0.6309203	0.6309203	0.6309203	0.6309203	0.6309203	0.6309203	0.6309203	0.6309203	0.6309203
Phase-1 RCT-25	0.9627033	0.8765007	1.2335186	0.78907555	0.8489633	0.8811228	1.0347737	0.9627033	0.9627033	0.9627033	0.9627033	0.9627033	0.9627033
Chondroitinase ABC	0.9537987	1.1740211	1.2849149	1.5665246	0.9570871	1.3048819	1.231681	0.9627033	0.9627033	0.9627033	0.9627033	0.9627033	0.9627033
Phase-1 RCT-202	0.87648324	1.2933025	0.87648324	1.2933025	0.87648324	1.2933025	0.87648324	1.2933025	0.87648324	1.2933025	0.87648324	1.2933025	0.87648324
Proliferating cell nuclear antigen	0.90840045	1.285015	1.2404142	1.212132	0.8818202	1.1517814	1.2404142	1.212132	0.8818202	1.1517814	1.2404142	1.212132	0.8818202
Activating transcription factor 3	1.149528	0.801357	1.286311	1.2442491	1.468224	1.358183	0.9888755	0.92866794	1.0094718	0.83359164	0.9764838	0.80105637	0.900671
Focal adhesion kinase (pp125FAK)	0.6747646	1.202056	0.9320787	1.3539481	0.58462366	0.7128604	1.221687	1.1663109	1.0308897	0.8707892	0.9764838	0.80105637	0.900671
Phase-1 RCT-259	1.202125	1.0770792	1.0530827	0.2699424	0.96234334	0.32289635	0.9748097	1.0493985	1.0493985	1.0493985	1.0493985	1.0493985	1.0493985
Phase-1 RCT-259	0.7253452	0.9828642	0.88863033	0.85451555	0.6590506	0.8462193	0.86439365	1.0557422	1.0825592	1.0530827	1.0530827	1.0530827	1.0530827
MHC class II antigen RT1A10 alpha-chain	1.0785739	0.7045207	1.2992707	0.9305924	1.11526	1.0883743	1.1981235	1.5764129	1.9519094	0.83685416	1.203154	0.9598	1.0067992
Act subunit	0.6313739	1.2120328	0.9035825	0.46101008	0.5802505	0.68782138	1.1981235	1.5764129	1.9519094	0.83685416	1.203154	0.9598	1.0067992
Phase-1 RCT-171	0.8541404	1.0110952	1.1702248	1.8270328	1.022911	1.0712834	1.0948388	1.0865813	1.1691365	1.0712834	1.0712834	1.0712834	1.0712834
Phase-1 RCT-43	0.5811948	0.7719015	0.6286116	0.5298028	0.5198051	0.3908038	0.2818176	0.8373307	0.736761	0.81237824	0.745623	0.657652	0.6963773
Phase-1 RCT-270	0.6594982	0.94370365	0.6276115	0.3927029	0.43001354	0.5249834	0.8058478	0.9003498	0.83640695	0.9493927	0.97563944	1.0178063	0.78330505
Calmodulin-stimulating factor-1	0.7414118	1.2320897	0.6132598	0.5082129	0.59022068	0.5204162	0.8783854	1.0836904	0.8662695	0.9474825	1.0046073	1.488562	0.95220397
N-cadherin	0.3743387	1.0880297	0.93706816	1.2180481	0.8510604	0.96508716	0.95349723	0.8332016	0.8317263	0.7333394	0.65739536	0.84459246	0.8676917
Phase-1 RCT-62	0.8944514	0.9645535	1.1026471	1.5003608	1.095621	1.3819175	1.0364507	0.9486727	0.9564577	0.8692907	0.8692907	0.8692907	0.8692907
AT-3	1.0306692	0.8847266	0.4208351	1.1118723	0.7627269	1.040374	0.98489294	0.9486727	0.9564577	0.8692907	0.8692907	0.8692907	0.8692907
Phase-1 RCT-18	0.9478504	0.9099535	0.8678698	1.4242562	0.8748835	0.9737474	1.0432685	1.1711165	1.1711165	1.1711165	1.1711165	1.1711165	1.1711165
Phase-1 RCT-123	1.0073142	0.9902706	1.1301395	1.142502	1.0285412	1.0402422	1.0472319	1.0832218	1.1344334	1.151599	1.0141597	1.0704919	1.0704919
Phase-1 RCT-66	0.96470374	1.2055817	0.9216945	0.69596114	0.81176764	0.59313474	1.1013377	0.8462897	1.1113377	1.1306036	1.4073305	1.2622272	1.2473986
Equilibrative nucleoside/nucleosine-sensitive nucleoside transporter	0.8956657	0.82510436	0.6052514	0.4807744	0.5265383	0.372596	0.8006228	0.9887587	0.7874686	0.7451100	0.8405779	0.7217597	0.73203208
Glucose transporter 2	1.0863418	1.232514	0.7356303	0.5973505	0.68805825	0.8233447	1.3279458	1.262375	1.1871686	0.7977441	0.7336782	0.5618595	1.036173
Multidrug resistant protein-2	1.1956743	1.0462384	1.4659749	1.1762651	1.3614495	1.3910713	1.0012009	0.86359864	0.99718916	0.91080534	0.7658961	0.6742762	1.036192
Mitochondrial protein-1	1.2074244	0.9900391	1.4324787	1.378032	1.4655391	1.3983953	1.0033383	0.8559692	1.0795128	0.8655916	0.7879114	0.7794595	0.87782504
Phosphatidylmethanamine-binding protein	0.8049757	0.8605417	0.8621124	0.50779676	0.4162196	0.7381889	0.80380666	0.865211	0.85008	1.1518614	1.6692395	1.5651221	1.4186147
Phase-1 RCT-180	1.1246364	1.0255389	0.8684595	0.762861	0.9048056	1.0086386	1.0086386	0.8336386	0.9425121	0.8871559	0.8197124	1.1720419	1.0815985
Integrin beta-4	1.0087777	1.0518369	1.264788	1.687235	1.1278807	1.174758	1.1350151	1.019847	1.052367	1.2239655	1.1399005	1.0759988	1.3040393
NADPH cytochrome P450 oxidoreductase	1.9322879	0.852622	2.068334	1.4833488	4.360386	2.130577	0.8450244	0.6818187	1.0587292	0.8092549	0.92649186	1.216218	0.983718
Wdr1	0.80921155	0.8860529	0.8897393	1.5420702	0.9433835	0.9367883	1.1781044	1.0367786	1.165472	0.673381454	0.6865786	0.569315	0.73154205
Endogenous retroviral sequence, 5' and 3' LTR	1.1172583	0.82498	0.82270503	0.6424979	1.1630761	1.0870938	0.5172176	0.43867844	0.4443559	0.7773918	0.8101371	0.819033	0.8513697
Phase-1 RCT-53	0.8858531	0.87322843	0.7933582	0.85195197	0.732425	1.028807	0.3563458	0.8232106	0.8512303	0.8058684	1.0270319	1.3083381	1
Phase-1 RCT-54	0.8661065	0.7634113	0.91059225	1.0461387	0.76493967	0.73981065	1.045004	1.1658753	0.97225475	1.0296193	0.9655576	0.9179235	0.9698173
Phase-1 RCT-240	0.97294625	1.2662473	1.2568592	1.0263587	1.0770789	1.0837777	1.0840009	1.1013263	0.9053089	0.7761101	1.3812853	1.8607088	1.510862
Osteopontin	1.1176431	1.0826565	1.3918141	0.744183	1.3542881	1.3903283	0.8387994	0.84010544	1.1834466	0.85397054	0.84065868	0.8805451	0.885527
Organic anion transporting polypeptide 1	1.0711755	1.0630684	1.123319	1.23911	0.7453376	1.029781	1.1381029	1.1751031	0.9387287	0.9742733	0.72889715	0.6944316	0.9269765
Tissue factor pathway inhibitor	1.0258476	1.0414428	0.757498	1.5414224	0.52728057	0.51031723	1.332475	1.105531	1.0705919	1.2675196	1.7164123	1.5990003	1.1151888
Cytin-dependent kinase 4 inhibitor P27Nip (allemand)	1.1927356	1.4845104	1.1327804	1.1730088	1.1889254	1.1207314	1.1824529	0.8804297	1.0101059	0.92508197	0.6537936	0.76465887	0.9510069
Phospholipase D	0.926753	1.0960155	0.837882	0.5654422	0.9757592	1.1645881	0.8164531	0.883791	0.8310514	0.84115897	0.7807347	0.87470156	0.97226036
Phase-1 RCT-39	1.0241119	0.9780214	1.1954904	1.0204531	1.2544413	1.0204531	1.3814116	0.94890677	1.0533796	0.8384894	1.121287	0.82458024	1.0340587
Phase-1 RCT-259	0.9585481	0.450838	0.3543943	1.2615271	1.3448216	0.9157726	1.0171726	0.9714694	1.0116418	1.0054881	0.9368817	0.86354846	0.5865291
Phase-1 RCT-113	0.9947471	0.9504933	0.771714	1.3118656	1.066103	1.0244743	0.9515182	1.0217757	1.0228075	0.7716111	0.7716111	0.7716111	0.7716111
Adrenomedullin translocator 1	0.9416966	1.0928832	0.77238476	0.7628425	0.82071025	0.7628425	1.0278008	1.0861594	1.0861594	1.0861594	1.0861594	1.0861594	1.0861594
Alpha-1 acid glycoprotein	0.25034368	0.53976395	1.301681	0.437884	0.978631	0.6764586	2.2803945	2.0218345	1.8013362	1.424228	1.9812678	1.44882	1.0761522
MHC class II antigen RT1.B-1 beta-chain	1.0831755	0.9216663	1.5468801	1.256103	1.7103093	1.3339971	1.0914881	1.4539444	1.2072936	0.90314734	0.9278246	0.91628003	1.0572727

Table 28

Organic cation transporter 3	1.0301453	1.3488048	0.80070219	1.0652692	0.71659427	0.9895336	0.9365115	0.9267911	0.8912159	1.404158	1.470837	1.4238292	1.7613426	1.5789419
Hydroxymethylglutaryl-CoA lyase	0.9821913	1.1583726	0.95342696	1.2577945	0.757795	0.82413185	1.2865928	1.1976819	1.0559226	0.8165994	0.728138	0.6881518	0.8014193	0.7445568
Phase-1 RCT-43	1.0285506	0.90023303	0.857207	1.0480281	0.8560021	0.830705	0.9115372	0.81285885	0.9228913	0.9835371	0.91422913	0.912772	0.9523728	1.0137835
Phase-1 RCT-45	1.0807194	1.018411	1.0503108	1.1554818	0.9225176	0.9704904	0.9296548	1.0240709	0.7615164	0.84947246	0.8019444	0.7847865	1.0015436	1.0220373
Malate dehydrogenase, cytosolic	0.90275073	0.86293143	1.2459652	0.75300956	0.85485244	0.8714356	1.0554999	0.9453218	1.3310063	0.7337379	1.0148755	0.9350952	0.88181474	0.9154116
VLDL element	1.0969437	0.83425545	0.80203897	0.7519141	1.1905238	1.3916191	0.62662956	0.87633114	0.51680984	1.1380651	0.76605335	0.6331028	1.1167894	0.8989103
Phase-1 RCT-189	0.8037233	0.7256735	0.63712245	0.7519141	0.93563356	0.8886763	1.2010952	1.4076957	1.0103855	0.85777444	0.96648947	1.018118	0.84504074	0.86319554
Alpha-fetoprotein	0.97176345	1.090528	0.88816787	1.0959043	0.8635032	1.0159815	1.0432417	1.0750349	1.0214787	0.89715563	0.97471017	1.1303973	1.1946703	1.1010423
Calgranulin B	1.12528	1.1341481	0.794714	0.6764127	0.8169939	1.1230067	1.133345	1.5370404	1.0251554	1.1885084	1.347292	1.2889081	1.0859689	1.1933863
Tissue plasminogen activator	1.4498416	0.8225771	0.7622282	0.6170071	1.1176741	1.1363394	0.94095386	1.0123173	0.84880775	1.0425569	1.5315366	1.550103	1.1049428	1.1380862
Phase-1 RCT-185	0.9342245	0.9289225	0.7915086	0.69290576	0.91442055	0.94666195	0.836868	0.94296316	0.93389505	0.8418838	0.90497005	1.0412145	0.80510026	0.8827507
Liver fatty acid binding protein	0.91040937	0.9328622	0.8694437	0.3807308	0.4350373	0.724274	0.8122993	1.1636835	0.61649704	1.2581655	0.9131152	1.2815261	1.5077894	0.89400455
Alpha-1 microglobulin/bikunin precursor (A1BP)	0.87085785	1.106717	0.8036496	0.42933175	0.78149736	0.5308778	0.9856555	0.8218106	0.9977852	0.7359077	0.8482971	0.7861935	0.9423359	0.9177624
Phase-1 RCT-234	1.0994077	0.7412197	1.304632	1.509207	1.3209436	1.008878	0.9856555	0.93581134	0.7974208	1.0807358	0.88805515	0.92705107	0.8505301	0.9176945
Phase-1 RCT-151	1.1442689	0.78917874	0.7826677	1.3204733	1.787958	1.1264751	1.069915	0.9884985	1.0546563	1.0207794	1.3787653	0.7640918	0.8898307	0.95769485
Phase-1 RCT-221	0.897544	1.0273651	0.8370827	0.6434123	0.8528887	0.79791164	0.8453091	0.7318168	0.85979125	1.1710942	1.0370238	0.889748	1.0920931	1.0833702
Phase-1 RCT-225	0.9421934	1.0197659	0.9307757	0.6532776	1.215426	1.1188695	0.87043047	0.811059	0.8654027	0.9451789	0.8806119	0.8290139	1.1361719	1.1025925
Organic anion transporter 3	0.8915443	1.2072545	1.3994507	0.77425975	1.2194909	1.239353	1.0856267	0.9508844	1.7990231	0.9452942	0.8292877	0.4745768	0.7515154	0.8839586
Matrix metalloproteinase-1	1.8189772	1.090431	1.562362	1.2152635	1.9331468	1.7775559	1.1864791	1.1477245	1.1472094	1.1123015	1.3156707	1.1346888	1.282249	1.2768875
Urinary protein 2 precursor	0.4349805	0.835394	0.489178	0.25302842	0.44110575	0.48643783	0.9369872	1.2133117	0.7888077	1.0951815	0.8130394	1.281949	0.7516023	0.701857
Phase-1 RCT-312	0.81532145	0.8073475	0.9550391	0.96205653	0.9316597	0.8189821	0.8807135	0.8014727	0.9089524	0.9186299	0.9894123	0.848052	1.0486726	0.9062513

(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 18).

(2) Compound and dose abbreviations as in Table 1.

(3) Individual animal number

(4) Liver inflammation classification for compound-dose group at 72 hr: yes= necrosis observed; yes= both, necrosis with inflammation observed; no, no inflammation observed

(5) Predictive gene (as in Table 18 and as included in Table 25)

Table 28. Expression Data for 6 Hour Timepoint (1)														
Compound-Dose (2)	PUR 150	QUIN 25	QUIN 25	QUIN 25	QUIN 25	QUIN 100	QUIN 100	QUIN 100	QUIN 100	QUIN 100	STRZ 20	STRZ 20	STRZ 20	STRZ 20
Gene Name (3)	33	2541	2542	2543	2543	2551	2551	2553	2553	2553	1721	1722	1723	1731
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	1.035709	1.107673	0.987496	1.597087	0.987246	0.89195	0.739169	1.031705	1.180594	1.065533	0.9161218	1.0452432	0.9161218	1.1386207
Insulin-like growth factor binding protein 1	1.2740602	0.8936892	0.82892224	1.1091291	0.95156396	1.0174003	0.9536198	0.9536198	1.0737689	1.1769456	0.9564167	0.94322707	0.94322707	1.0912783
Gadd153	0.7143131	1.0717872	0.94105285	1.4965594	1.1130328	1.1461422	1.1461422	1.1461422	0.9434324	0.9434324	0.9414742	0.8724205	0.8724205	1.2086236
c-myc	0.9946709	1.2242168	1.065608	1.1880375	1.0729123	1.1389034	0.9634779	1.2761023	0.9970778	1.2533588	1.263437	1.1432694	1.1432694	1.2778863
NIPK	2.138561	1.0515392	1.0313617	1.0920169	1.0716808	1.2215364	1.0920169	1.0920169	1.4823062	1.2500424	1.658361	1.1029338	1.1029338	1.1570712
Cathepsin L, sequence 2	1.987287	0.9515392	0.9371817	3.0125354	0.7217018	0.9998794	0.7943903	1.2238857	0.8334703	1.0286656	0.8987098	1.1559292	1.1559292	1.4631745
Heme oxygenase	1.3846655	0.97171	0.947071	2.884263	0.7217018	0.9998794	0.7943903	1.2238857	0.8334703	1.0286656	0.8987098	1.1559292	1.1559292	1.4631745
Phase-1 RCT-109	1.162782	1.01567	1.1315769	2.602575	1.054947	0.801331	0.9700951	1.1507503	1.2229003	1.1071004	1.1539181	1.0075294	1.0075294	1.2297405
Phase-1 RCT-111	1.2607344	1.4631819	1.4137486	2.2681432	1.784231	1.632306	2.0624561	1.4597362	1.2229003	1.1071004	1.1539181	1.0075294	1.0075294	1.2297405
Arabinoside resistance	1.0318241	0.82611924	0.92421633	1.0660062	0.8009569	0.9009191	0.9306811	1.0300825	1.1800085	0.9565296	1.137682	0.96855164	0.96855164	1.0236595
ONA polymerase beta	1.2017128	0.8070996	1.1381233	1.0660062	0.8009569	0.9009191	0.9306811	1.0300825	1.1800085	0.9565296	1.137682	0.96855164	0.96855164	1.0236595
Phase-1 RCT-103	1.157387	1.1359147	1.1610942	1.5389508	1.2442768	1.1546791	1.1212606	1.0114765	1.0285892	0.9353081	1.0340133	0.7896277	0.7896277	0.9545266
Ribosomal protein S9	1.0513265	1.2371743	1.00742	1.2577988	1.268838	1.091984	1.0348511	1.1788878	1.1257246	0.9353081	1.0340133	0.7896277	0.7896277	0.9545266
Phase-1 RCT-114	1.1017004	1.1078952	1.0637233	1.2577988	1.268838	1.091984	1.0348511	1.1788878	1.1257246	0.9353081	1.0340133	0.7896277	0.7896277	0.9545266
Phase-1 RCT-15	1.0450137	0.9289722	0.98205427	1.5719418	0.8571353	0.9831936	1.1350106	1.0051125	0.9721864	1.620434	0.9320153	0.8020574	0.8020574	1.5605807
Macrophage inflammatory protein-2 alpha	0.80459315	0.8378341	0.786496	0.75382537	0.7000711	0.8552758	0.82018685	1.0825188	1.019491	1.283646	1.3568833	1.0795976	1.0795976	0.7674263
protein PC3	1.0881647	1.2768439	0.99131393	1.1661208	1.6311626	1.4090888	1.2831936	1.1613519	1.5135149	1.6197448	1.8007229	1.8539108	1.8539108	1.082834
Phase-1 RCT-181	1.0055707	1.2868888	1.1108173	2.2026597	1.4017512	1.6936817	1.068743	0.8630268	0.8505122	0.86027205	0.7897526	0.7030764	0.7030764	1.8153873
Phase-1 RCT-45	1.1438824	0.83072	0.9049843	2.0129141	1.654114	1.4355881	1.0901729	1.0362284	0.9710311	1.0182247	1.1522247	1.0986577	1.0986577	1.9194723
Cyclin D3	1.1759479	0.9705592	1.0710592	1.171194	0.8974754	1.0915705	1.090958	0.9734547	1.1271184	1.241226	1.0922858	1.4321948	1.4321948	1.1312634
Phase-1 RCT-108	0.916993	0.57548136	0.5303009	0.5975161	0.5116786	0.4206674	0.4929047	1.0157864	0.87241086	0.899177	1.097727	0.9026033	0.9322193	1.0033815
Phase-1 RCT-58	1.3502429	0.9005873	0.7160121	0.88300467	1.0155701	0.9322483	0.9650519	1.0989353	1.1677673	0.96120447	1.4244707	1.2816162	1.408894	0.9605953
Phase-1 RCT-192	1.250124	1.4174133	1.0174372	1.9605625	1.3787202	1.2384981	1.1150541	1.3240062	1.2186002	1.231854	2.237395	1.1456001	1.1456001	1.0959111
Phase-1 RCT-75	0.8339354	0.9165118	0.8534338	1.1899308	0.9653266	0.8364064	0.9651404	1.1522685	1.2600454	1.182892	2.358967	0.8433398	0.8433398	1.0659137
Acetyl-CoA carboxylase	1.1684146	0.7333682	0.85261455	0.9555185	0.8458803	0.7125906	0.7289572	1.2797401	1.0504334	1.2872291	1.134135	1.134135	1.134135	1.1523914
Cystatin C	1.1725912	1.007315	1.0354286	1.654339	1.1762238	1.237148	1.2206876	1.2807841	0.8391582	1.358856	2.317324	0.9707008	0.9707008	1.0659337
Phase-1 RCT-9	1.076489	0.954339	0.954339	1.762238	1.237148	1.2206876	1.2807841	0.8391582	1.358856	2.317324	0.9707008	0.9707008	0.9707008	1.0659337
Phase-1 RCT-49	1.076489	0.954339	0.954339	1.762238	1.237148	1.2206876	1.2807841	0.8391582	1.358856	2.317324	0.9707008	0.9707008	0.9707008	1.0659337
Gadd45	1.076489	0.954339	0.954339	1.762238	1.237148	1.2206876	1.2807841	0.8391582	1.358856	2.317324	0.9707008	0.9707008	0.9707008	1.0659337
Phase-1 RCT-156	1.076489	0.954339	0.954339	1.762238	1.237148	1.2206876	1.2807841	0.8391582	1.358856	2.317324	0.9707008	0.9707008	0.9707008	1.0659337
Corfilin	1.011674	1.0669648	0.78655185	1.308295	1.008852	1.1610404	1.068553	1.10988	0.968668	1.042135	1.222339	1.2317566	1.2317566	1.133048
Phase-1 RCT-127	0.707767	1.0617851	1.0433962	1.1756982	0.994263	1.1470653	1.1203113	1.0748428	0.9613103	0.8400785	1.4573549	0.81371444	0.81371444	1.0151678
Macrophage inflammatory protein-1 alpha	0.9151603	1.1104408	1.0930924	1.4057719	1.1470653	1.1203113	1.0748428	0.9613103	0.8400785	1.4573549	0.81371444	0.81371444	0.81371444	1.0151678
Zinc finger protein	0.8840857	1.0291015	0.96508384	0.8452626	0.8801879	1.0076854	0.9693736	1.0728621	1.0167111	1.0207121	1.0207121	1.0207121	1.0207121	0.9178347
Phase-1 RCT-73	1.1155926	0.86360496	0.90526706	0.8452626	0.8801879	1.0076854	0.9693736	1.0728621	1.0167111	1.0207121	1.0207121	1.0207121	1.0207121	0.9178347
Glutamine synthetase	0.98075974	0.8018779	0.85552824	1.045143	0.881671	1.2936996	0.9341326	0.8494085	0.757324	0.8801477	0.7278925	1.2941093	1.2941093	1.018332
Cardiolipin protein	1.0424656	0.865512	0.92573833	1.045143	0.881671	1.2936996	0.9341326	0.8494085	0.757324	0.8801477	0.7278925	1.2941093	1.2941093	1.018332
Phase-1 RCT-242	1.1310492	0.853328	1.0059975	1.274222	1.1717432	1.0444403	1.0433222	1.0014558	0.84219915	1.5487115	1.377597	0.8943315	0.8943315	1.0512774
Phase-1 RCT-50	1.171813	0.693433	0.89357	1.280277	0.727252	0.8389966	0.8872455	1.026789	1.2483238	1.057475	1.248002	1.699458	1.699458	0.8627937
Integrin beta1	1.250079	1.063354	0.89357	1.280277	0.727252	0.8389966	0.8872455	1.026789	1.2483238	1.057475	1.248002	1.699458	1.699458	0.8627937
Insulin-like growth factor binding protein 5	0.912191	0.857597	1.015218	1.46393	0.94426	0.910745	1.0542527	1.5400121	1.4857432	1.5314638	1.5314638	1.5314638	1.5314638	0.7623639
Phase-1 RCT-59	1.0547501	1.053215	1.067072	1.1593317	1.0817872	1.0348437	1.109334	1.0723098	0.8672726	1.5314638	1.5314638	1.5314638	1.5314638	0.7623639
Phase-1 RCT-76	1.0801893	1.0417635	0.94826	1.1913363	0.8323475	0.7851379	0.8347074	1.0423884	1.124009	1.1938875	1.1938875	1.1938875	1.1938875	0.7623639
Fennin H-chain	1.0806979	0.913985	0.7783856	0.5116735	0.8323475	0.7851379	0.8347074	1.0423884	1.124009	1.1938875	1.1938875	1.1938875	1.1938875	0.7623639
Selenoprotein P	1.2826846	0.862912	0.83762866	0.83762866	0.8323475	0.7851379	0.8347074	1.0423884	1.124009	1.1938875	1.1938875	1.1938875	1.1938875	0.7623639
FTENMACH	0.89221406	0.99999774	1.1103244	0.430798	0.8090026	1.1157984	0.83762866	1.1157984	0.83762866	1.1157984	0.83762866	1.1157984	1.1157984	0.7623639
Phase-1 RCT-214	0.9156963	1.1363833	0.8392418	0.871721	0.9533657	1.0425295	0.9555448	1.23411691	0.89723353	0.8452662	0.8452662	0.8452662	0.8452662	0.7623639
Phase-1 RCT-112	0.79772407	0.9247174	0.85929185	1.053995	0.84031105	0.8970486	0.84031105	0.8970486	0.84031105	0.8970486	0.84031105	0.8970486	0.8970486	0.7623639
Thymidylate synthase	0.7456176	0.6919495	1.5591552	0.677337	0.9519038	1.1447592	1.040253	0.9603948	1.0089455	1.9429463	0.8653916	0.8430624	0.8430624	0.7623639
Phase-1 RCT-13	1.017478	0.6757435	0.4644087	1.002337	0.6016421	0.63302453	0.5557376	1.0815134	0.9386222	1.5633734	0.9386222	1.5633734	1.5633734	0.7623639
Nucleosome assembly protein	1.4084079	0.90287485	1.121329	0.5443574	0.878707	1.0669802	1.0669802	1.0669802	1.0669802	1.0669802	1.0669802	1.0669802	1.0669802	0.7623639
Cholesterol 7-alpha-hydroxylase (P450 VII)	0.76174174	1.0539087	1.123298	1.8360767	1.0366461	1.0366461	1.0366461	1.0366461	1.0366461	1.0366461	1.0366461	1.0366461	1.0366461	0.7623639
Vesicular monoamine transporter (VMAT)	0.8143193	0.980173	0.9403008	0.73534	0.9110027	1.096688	1.0271381	0.7704732	0.6820128	0.63514453	0.6270533	0.75009084	0.75009084	1.055308
Phase-1 RCT-280	0.85492396	0.899504	0.936342	0.7832473	0.6538556	0.5583127	0.6538556	0.5583127	0.6538556	0.5583127	0.6538556	0.5583127	0.6538556	1.055308

Table 28

Phase-1 RCT-32	1.0548155	1.3393801	0.9282183	0.988223	0.9328064	1.3367351	1.3092543	0.85531319	0.78620833	1.215584	1.261042	1.265307	0.8554572	0.94766933
Protonema assembly factor 1	1.0196894	1.3155174	1.2003325	1.3982524	1.3057484	1.3074478	1.3074478	0.6364167	0.9433873	0.9626882	1.0911087	0.9631607	0.9870814	0.89944514
Procarboxin DNA glycosylase	0.8317676	1.0248191	1.1552656	1.1552656	1.1337317	1.1337317	1.1337317	0.9362047	0.9362047	0.9362047	0.9362047	0.9362047	0.9362047	0.9362047
Phase-1 RCT-42	0.9305265	1.0115731	0.9684414	0.9684414	0.9684414	0.9684414	0.9684414	1.0203491	1.0203491	1.0203491	1.0203491	1.0203491	1.0203491	1.0203491
North PIG	0.8206846	1.2470636	1.0033869	0.4578518	1.3527655	0.8409087	0.8409087	1.1553266	1.1553266	1.1553266	1.1553266	1.1553266	1.1553266	1.1553266
Phase-1 RCT-184	1.1560822	0.9647128	0.9423813	0.7768985	1.1062593	0.8346484	0.8346484	0.8902177	0.8902177	0.8902177	0.8902177	0.8902177	0.8902177	0.8902177
Phase-1 RCT-188	0.406267	0.8166531	0.8005101	0.8071093	0.7732947	0.8235197	0.8235197	0.8667434	0.8667434	0.8667434	0.8667434	0.8667434	0.8667434	0.8667434
Phase-1 RCT-119	0.6323813	1.0210013	0.932207	0.9537554	0.99517584	0.9582984	0.9582984	0.8374906	0.8374906	0.8374906	0.8374906	0.8374906	0.8374906	0.8374906
Carbonic anhydrase II	0.8243768	0.9386383	0.9077024	1.0015317	1.0524276	0.8965008	0.8965008	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Trypanpan hydrolase	0.9403392	0.8198465	0.90393	0.904076	0.9825035	1.0525131	1.0525131	0.93104504	0.93104504	0.93104504	0.93104504	0.93104504	0.93104504	0.93104504
Phase-1 RCT-171	0.9400395	0.8773384	0.9090476	0.9825035	1.0525131	1.0525131	1.0525131	0.93104504	0.93104504	0.93104504	0.93104504	0.93104504	0.93104504	0.93104504
Phase-1 RCT-179	1.3420126	1.0695516	0.9789584	0.9154271	0.91024613	0.9258605	0.9258605	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Phase-1 RCT-161	0.82208135	1.1353348	1.1384655	2.2109659	1.2883872	1.138589	1.138589	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Phase-1 RCT-144	1.2703614	1.0003207	0.971875	1.2529523	1.1527525	1.3151917	1.3151917	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Phase-1 RCT-225	0.52468873	0.8224486	0.8845654	1.3267355	0.8038162	0.9595652	0.9595652	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Oxythrom P460 2E1	1.0568753	0.9380593	1.0356602	0.9442388	1.105311	1.053111	1.053111	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
IL-1	0.9311806	1.0331286	1.082014	0.9738388	0.86602154	0.86602154	0.86602154	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Thioredoxin-1 (Trx1)	1.1133468	0.9263502	0.82483976	0.9475777	0.9757777	1.0733333	1.0733333	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Carbonic anhydrase III	0.32292527	0.86878123	1.23965	0.29666385	0.5571008	0.2518858	0.2518858	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Phase-1 RCT-140	0.91730434	0.84205164	0.88145338	0.9591176	0.8483587	0.99408174	0.99408174	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Complement component C3	0.65433784	0.5417879	0.7091465	0.46946252	0.7633718	0.3221983	0.3221983	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Glucokinase	0.7634644	1.0493597	1.1069584	0.9221138	1.2885172	1.068032	1.068032	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
3-methyladenine DNA glycosylase	0.8765953	0.99682117	1.197242	1.3989536	1.0075378	1.0075378	1.0075378	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Periplasmic multidimensional enzyme type II	1.1675475	1.0787788	0.9505832	0.8542814	0.9207306	0.9207306	0.9207306	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Phase-1 RCT-40	0.84561366	0.8116689	0.8920573	0.9999798	0.9833155	0.7035766	0.7035766	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Sensitization marker protein-30	0.45774794	0.811003	0.9388728	0.9999798	0.9833155	0.7035766	0.7035766	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Cytin G	2.0401466	1.051012	1.0155321	1.515248	1.0050525	1.0146238	1.0146238	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Melanoma-associated antigen ME491	1.0544521	0.98391473	0.9224387	1.0155321	1.0146238	1.0146238	1.0146238	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Phase-1 RCT-28	1.0809182	1.0810922	1.1227569	0.7263309	1.025147	1.2774533	1.2774533	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Enerlin	1.0989051	1.1750771	1.0750771	1.0750771	1.0750771	1.0750771	1.0750771	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Acidic dehydrogenase 1	0.5047465	0.8071098	0.83011972	1.0341445	0.55442657	0.74081965	0.74081965	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Sic1 cell factor	0.484894	0.8071098	0.83011972	1.0341445	0.55442657	0.74081965	0.74081965	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
JNK1 stress activated protein kinase	0.82228845	0.8562837	0.85003716	0.9357356	0.874205	0.80498725	0.80498725	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Protein tyrosine phosphatase alpha	0.9518844	1.0817035	0.92352265	1.6488018	1.3583592	1.1089782	1.1089782	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Phase-1 RCT-55	1.623565	0.9003094	1.085867	1.4557115	1.0684187	1.1089782	1.1089782	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Ubiquitin conjugating enzyme (RAD 6 homologue)	0.8817445	0.78565176	0.9415337	0.84857674	0.93079348	0.8683741	0.8683741	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
DNA topoisomerase I	0.8945849	1.0679547	1.0984004	0.7683946	0.6883741	1.1255188	1.1255188	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Phase-1 RCT-280	1.063506	1.2098013	1.039717	3.744806	1.2219846	1.1624682	1.1624682	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Superoxide dismutase Mn	1.12632	1.276248	1.1943134	0.8710178	1.24872	0.94328815	0.94328815	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Beta-tubulin, class I	0.67688124	1.3469228	1.040604	0.9164806	1.3509933	1.3509933	1.3509933	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Carbamyl phosphate synthetase I	0.9878521	1.0973259	1.1501167	1.290102	1.1359074	1.2290732	1.2290732	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Dialcylglycerol kinase zeta	1.118483	0.88925373	0.8448467	2.9338884	1.2411463	1.271702	1.271702	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Phase-1 RCT-141	0.96587874	1.1426883	1.1011855	0.9550894	1.2807937	1.168954	1.168954	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
14-3-3 zeta	1.1310892	1.075411	0.9630288	1.8864286	1.675688	1.2815956	1.2815956	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Gammacell, cytoplasmic	1.680854	1.0798548	1.1182287	1.2794875	1.1625522	1.141447	1.141447	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Ribosomal protein L13A	1.468872	0.842523	0.97658194	1.254304	0.81878294	1.160252	1.160252	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Itih-a	0.8774497	0.9884735	1.0161941	0.7862401	1.1160252	1.0325493	1.0325493	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Phase-1 RCT-45	0.7570067	0.9660422	0.9228222	1.2308091	1.1535759	1.0465816	1.0465816	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
C-Jun	0.9228086	0.8547042	0.8843122	0.9250265	0.91023266	0.8723544	0.8723544	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Protein O-mannosyltransferase 1 (Pom1)	0.95228163	1.171152	1.2720191	0.9863217	1.2681873	1.1595472	1.1595472	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
HMG CoA reductase	1.0503367	1.2816493	1.1664319	0.9564905	1.1451154	0.94481623	0.94481623	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Phase-1 RCT-12	0.87228435	1.031074	0.9722404	1.1770304	1.024626	1.0792588	1.0792588	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Interferon related developmental regulator (IRD1)	1.2970007	0.85179946	1.0244175	1.1358426	1.3748885	1.2818805	1.2818805	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Glucose-regulated protein 78	1.2740374	0.8914075	1.018163	0.9779786	1.027588	0.89142776	0.89142776	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
3-beta-hydroxysteroid dehydrogenase (HSD3B1)	1.2047224	0.90217465	1.071782	1.178977	0.9716208	0.88807535	0.88807535	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015	0.80474015
Caspase 6	0.80449165	1.048186	0.89927715	0.9173854	0.8910572	0.9186045	0.9186045	0.80474015	0.8047					

Phase-1 RCT-72	1.0118543	0.9829044	1.0245181	0.6446894	0.874143758	0.96408504	0.86378324	0.8814218	0.89416426	0.7568346	0.85603005	1.0589315
Pyruvate kinase, muscle	2.1755231	1.0023508	0.9731376	1.0553184	1.0480223	1.2165269	1.1340632	1.2497878	0.72783494	1.1068248	0.84674287	
Phase-1 RCT-286	1.0046732	1.0870568	0.487127	0.9202051	1.0253478	0.9430336	0.8623713	0.8910494	1.1175363	0.8651078	1.0505004	1.1242891
Phase-1 RCT-90	0.95327365	1.016896	0.90318073	0.881374	0.91696344	0.9115524	0.8940337	0.84645790	0.9045512	0.8371178	0.865724	1.1725682
Cytochrome P450 2C39 (alternate clone 2)	1.8794191	1.0716373	0.8774836	0.88411363	0.9070477	0.8989771	1.2067041	1.232588	0.8578666	1.0524262	0.9762056	0.8884387
Phase-1 RCT-280	0.87587405	2.255794	1.1697891	1.2326378	1.264641	1.139558	0.2758838	1.057882	1.0240088	0.96849763	0.85253036	1.2342464
Phase-1 RCT-281	1.2246596	1.094428	1.1976393	1.2615974	1.4102876	1.205662	1.1909664	0.9910331	0.922086	1.020086	1.20691594	1.1601689
Methylglucyl-CoA carboxylase alpha	0.8641221	0.9586337	0.9451498	0.7355355	0.9553968	1.0953968	1.0953968	0.9273571	0.9517114	1.222364	0.8007569	0.8859454
Cytochrome P450 1A2	0.9774121	0.962846	0.9628013	0.91444594	0.89857407	0.83049634	0.5400976	1.0370315	0.7154285	1.1643378	0.97584128	1.0871351
Monomine oxidase B	0.7643498	0.7674684	0.9748276	0.8229835	0.72155225	1.268333	1.0500257	0.875458	0.9703988	1.0093329	1.0221143	0.8611856
Phase-1 RCT-264	0.6403853	0.927093	0.9712372	0.91155138	0.85476335	1.268333	1.0500257	0.875458	0.9703988	1.0093329	1.0221143	0.8611856
Peritoneal proliferator activated receptor gamma	1.038766	0.8349734	0.8577485	0.6420071	1.0952871	1.1404754	0.0890959	1.07158491	1.145814	0.9075227	1.1522594	0.89811707
Phase-1 RCT-143	0.9524612	1.1603362	0.9811057	0.7777485	1.2036221	0.83008866	1.0394529	0.8626388	0.881822	0.9075227	1.1522594	0.89811707
Phase-1 RCT-117	0.85733163	1.0416765	1.1108713	0.9557821	1.0039143	1.0736165	0.8488694	0.9518514	0.65304174	0.971336	1.1922972	0.8545887
Glutathione S-transferase (hba-1)	1.0369154	1.0589121	1.2088621	0.9801523	0.927629	0.9208775	0.9883393	0.7881652	0.6860508	0.9237555	1.1922972	0.8545887
Phase-1 RCT-148	1.2537676	0.9522951	1.0250688	0.6144635	0.8613789	0.7633188	0.8761912	1.1032384	1.2128748	1.146507	1.1467081	1.5273201
Phase-1 RCT-142	1.0577098	1.0352861	1.1254553	0.8648515	0.847776	0.9444659	0.9343598	1.0565709	0.9698789	1.1322775	0.9698789	1.1322775
AdhA receptor type II	1.142334	1.0909666	1.1443226	1.1124748	1.1653955	1.130717	1.1440543	0.9569398	0.86805075	0.9609767	0.7091496	0.70883036
Glycine methyltransferase	0.91371286	0.9505214	0.89020735	0.88709767	0.8497055	0.5983309	1.4675857	0.94701636	0.8071922	1.1485203	1.5313217	1.0890845
Phase-1 RCT-281	1.4339957	1.1618968	0.963736	1.169592	0.9239165	1.0486534	1.068286	1.2042172	0.9797163	0.8203246	0.83837863	0.95837863
Ciliary neurotrophic factor	0.98203814	0.9579517	0.8628604	1.1456338	1.0074525	0.9469145	0.80248415	1.0403086	0.9140863	0.84716204	0.8696056	0.7448041
Gap junction membrane channel protein beta 1 (Gph1)	1.0237556	1.4510803	1.1675835	0.8205248	1.7735327	1.3798557	1.1312643	1.8978754	1.8328864	1.4807022	1.5982124	1.7270193
Phase-1 RCT-86	1.122567	1.058653	0.9489632	1.1775441	1.1416545	1.1541972	1.024008	0.9693261	1.0514813	1.1387885	0.8989104	1.1421589
Phase-1 RCT-287	1.1050291	0.8157626	0.92136765	0.83284607	0.8108144	0.8471811	1.059764	1.0029128	0.9802625	0.9526011	1.2009637	1.2091691
Refining-binding protein (RBP)	1.156136	0.7876881	0.9072461	0.6017523	0.8648515	0.847776	0.9444659	0.9343598	1.0565709	0.9698789	1.1322775	0.9698789
Very long-chain acyl-CoA synthetase	1.3965394	0.7009632	0.8435545	0.6017523	0.8648515	0.847776	0.9444659	0.9343598	1.0565709	0.9698789	1.1322775	0.9698789
Synaptobrevin-1	0.90415575	0.9034306	0.9016022	0.9016022	0.9016022	0.9016022	0.9016022	0.9016022	0.9016022	0.9016022	0.9016022	0.9016022
Sulfinil	1.0851953	1.1039365	1.091622	1.0071902	0.9877608	1.0288283	1.047385	1.0345565	0.992543	1.0046877	0.98453337	0.9399453
Phase-1 RCT-145	1.0851953	1.1039365	1.091622	1.0071902	0.9877608	1.0288283	1.047385	1.0345565	0.992543	1.0046877	0.98453337	0.9399453
Avin	0.8343363	0.974393	1.07503	1.131004	1.159395	1.159395	1.159395	1.159395	1.159395	1.159395	1.159395	1.159395
Phase-1 RCT-89	0.8563437	0.9305275	0.8275194	0.4684353	0.6863523	0.6863523	0.6863523	0.6863523	0.6863523	0.6863523	0.6863523	0.6863523
Sarcoplasmic reticulum calcium ATPase	0.8593399	0.8214638	0.8593171	1.0165353	0.7674784	0.9582358	0.8141675	0.7976981	1.0155424	0.8891268	1.7544894	1.2053383
Alpha-2-macroglobulin, sequence 2	0.85240194	0.82527584	0.87539684	1.212572	0.943063	0.8576626	0.87170476	0.92966	0.94780167	1.0496235	1.7544894	1.2053383
Phase-1 RCT-204	1.0334567	1.104904	1.0693393	1.0495748	1.2875121	1.1948778	1.241528	1.032585	0.9623283	1.2685891	1.263238	1.0970818
Vascular endothelial growth factor	0.9501822	1.0533589	0.98624706	0.96705467	1.118024	1.036942	0.86191283	1.3325977	1.3454841	1.1192241	1.5076722	1.4710894
NADP-dependent isocitrate dehydrogenase, cytosolic	1.0897419	1.0848008	1.1678219	0.6985109	0.97968036	0.93195057	0.80926275	0.9098015	0.8780325	0.98067	0.9228791	0.8956212
DNA binding protein inhibitor IL2	1.0384897	1.1187531	1.1386202	1.0715445	1.0531691	0.89987254	0.815015	1.216123	1.0933567	0.9080927	1.791808	1.4152632
Glutathione S-transferase Ya	0.719821	0.9650531	1.0960590	0.5198881	0.43631626	0.5376126	0.7627788	0.8776264	1.012215	0.74241173	1.0378073	0.9317775
Epoxide hydratase	1.0481632	1.1256438	1.8871501	0.950747	1.649643	1.8672048	0.60362758	1.1373205	0.9289257	0.69502753	0.87680745	0.88341706
Insulin-like growth factor I	0.8532665	1.0183394	0.9383351	0.9594552	0.9308215	1.0324275	0.78862437	1.0233635	1.3533118	0.70824465	0.8142207	1.2258676
Prostaglandin H synthase	1.3278897	1.0478034	0.9386511	2.1581884	1.165728	1.179606	1.2700387	1.003448	1.9559408	0.9036909	0.95760085	1.2014072
Phase-1 RCT-136	1.0586426	1.056662	1.0352151	0.6394884	0.9730046	0.90001575	0.8287248	0.688582	0.9837137	1.2176254	1.118846	1.032666
Phase-1 RCT-137	0.901741	0.99562174	0.88032916	0.8284514	0.85038274	0.85038274	0.85038274	0.85038274	0.85038274	0.85038274	0.85038274	0.85038274
Phase-1 RCT-138	0.901741	0.99562174	0.88032916	0.8284514	0.85038274	0.85038274	0.85038274	0.85038274	0.85038274	0.85038274	0.85038274	0.85038274
Hepatic lipase	0.7033045	1.1391952	1.0710881	0.9157022	1.0743986	0.9106293	0.7367615	0.916953	0.75816464	1.0971323	0.92568797	0.8702608
Phase-1 RCT-164	0.8045985	1.1987424	1.0919951	1.1603387	1.1490577	1.151005	1.0062108	0.9605151	0.91520864	1.2007323	0.92568797	0.8702608
Acyl-CoA dehydrogenase, medium chain	1.1406224	0.9383812	1.0459981	0.8704028	0.8133832	0.97958314	1.0344044	0.9406321	1.1768102	0.8940393	1.0346397	1.378025
Glutathione S-transferase Yb2 subunit	0.8428107	0.94495404	0.8460725	0.8703312	0.8205783	0.8205783	0.8205783	0.8205783	0.8205783	0.8205783	0.8205783	0.8205783
Carbonic dehydratase	1.01515047	1.1452755	0.9359446	0.8374987	0.82780224	0.87646553	1.1145511	1.5665688	1.080089	1.4395994	1.0065887	1.3131748
Phase-1 RCT-166	0.97822887	0.7074391	0.9359446	0.8374987	0.82780224	0.87646553	1.1145511	1.5665688	1.080089	1.4395994	1.0065887	1.3131748
Apolipoprotein E	1.3424404	0.748154	0.9787585	0.5200435	0.73409873	0.9741074	1.0695727	0.66651423	0.8297237	0.8884912	0.970908	0.9884876
UDP-glucuronosyltransferase	0.6883051	1.076283	1.1403731	0.631772	0.8449807	1.0833381	0.9587856	0.9587856	0.9587856	0.9587856	0.9587856	0.9587856
Glutathione S-transferase P1	1.0631287	0.72804584	0.8800928	0.8841588	0.6902468	0.90111303	0.9587856	0.9587856	0.9587856	0.9587856	0.9587856	0.9587856
Disulfide isomerase related protein (Erg72)	0.7987036	0.9860597	1.0502026	0.7010476	1.0615469	1.1452767	1.0510129	1.0167239	0.9257378	0.9413818	1.4543055	1.1705681
Robosoma protein L13	1.0495868	0.8601224	0.7880465	1.3343268	0.87554136	0.8135381	0.84828687	0.8624907	0.90256336	0.9781555	0.6862177	1.0157778
Catoplasmin	1.2691882	1.2123142	0.9353972	2.0776381	1.6195557	1.5153796	1.1820291	0.9263414	0.9540708	1.0772283	1.5149103	1.6189203
Inter-alpha-inhibitor H4 heavy chain (IHH4)												

Table 28

Phase-1 RCT-3	1.1653597	0.95777655	1.0214881	1.2246025	1.0137228	1.0078111	1.0540735	0.95478487	0.9223873	0.8555639	0.8625213	0.8190114	0.95590775
Phase-1 RCT-3	0.9294067	1.2524529	1.0737082	1.0834046	0.9650785	0.9650785	1.0540735	0.95478487	0.9223873	0.8555639	0.8625213	0.8190114	0.95590775
3-hydroxybutyrate dehydrogenase	1.3835353	0.9145042	0.9245042	0.7180158	0.9893995	0.70298875	0.7425517	0.7425517	0.7425517	0.7425517	0.7425517	0.7425517	0.7425517
Carbonic anhydrase III, sequence 2	0.9911628	0.86991266	0.86991266	0.7542659	1.0446331	0.9127491	0.9628016	0.9628016	0.9628016	0.9628016	0.9628016	0.9628016	0.9628016
Phase-1 RCT-10	1.081552	1.1311984	1.0811348	0.65352345	1.0446331	0.9127491	0.9628016	0.9628016	0.9628016	0.9628016	0.9628016	0.9628016	0.9628016
Alpha-2-microglobulin	1.228619	0.8014371	0.701739	1.0525219	0.6723482	0.56756287	1.3468511	0.8520103	0.56756287	0.56756287	0.56756287	0.56756287	0.56756287
Dynactin-1 (D100)	0.84316671	1.0253592	1.0254208	1.4533957	1.107459	1.2143362	1.1629821	0.8520103	0.56756287	0.56756287	0.56756287	0.56756287	0.56756287
Lysyl oxidase	0.8360915	1.0943355	0.894294	0.9423274	1.034115	0.9315292	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679
Phase-1 RCT-252	0.765026	1.0092534	1.033992	1.5680702	1.3734831	0.8913679	1.204569	0.654707	0.765026	0.765026	0.765026	0.765026	0.765026
Phase-1 RCT-29	1.1813278	1.1503222	0.932183	1.783281	1.034115	0.9315292	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679
Phase-1 RCT-278	1.035406	1.2274549	0.952183	0.952183	1.034115	0.9315292	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679
Phase-1 RCT-42	1.2023877	1.1570387	1.1321088	0.952183	1.034115	0.9315292	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679
Phase-1 RCT-205	0.88940813	0.8969994	0.8931786	0.952183	1.034115	0.9315292	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679
Cytochrome P450 2C11	1.0835163	1.1671872	1.0364918	1.230684	1.034115	0.9315292	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679
Phase-1 RCT-202	1.055985	0.9692014	0.9535329	1.230684	1.034115	0.9315292	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679
Complement factor (C3)	1.5255425	0.9692014	0.9535329	1.230684	1.034115	0.9315292	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679
Proliferating cell nuclear antigen gene	0.8539039	1.0279797	0.9237141	1.3459143	1.0119871	1.047991	1.0062754	0.8574325	0.8574325	0.8574325	0.8574325	0.8574325	0.8574325
Activating transcription factor 3	1.0154415	1.4913332	1.4384993	1.5041813	1.034115	0.9315292	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679
Focal adhesion kinase (FAK)	0.8365915	1.0372815	1.0335844	1.5041813	1.034115	0.9315292	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679
Phase-1 RCT-269	0.8365915	1.0372815	1.0335844	1.5041813	1.034115	0.9315292	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679	0.813679
Iron-responsive element-binding protein	1.0304173	0.8408271	0.84644926	1.3686418	1.3281785	0.86649126	0.9170876	0.82708147	0.82708147	0.82708147	0.82708147	0.82708147	0.82708147
MHC class II antigen RT1A10 alpha-chain	1.1373384	1.0171551	0.931153	1.198534	1.4748625	1.2625607	1.1630158	0.55515456	0.55515456	0.55515456	0.55515456	0.55515456	0.55515456
Non-responsive element-binding protein	1.0448114	1.3959268	0.94419193	0.79909137	0.8507726	0.6347285	0.76909137	0.76909137	0.76909137	0.76909137	0.76909137	0.76909137	0.76909137
Aryl sulfotransferase	0.7653389	0.753395	0.8764763	0.753395	0.8764763	0.753395	0.8764763	0.753395	0.8764763	0.753395	0.8764763	0.753395	0.8764763
Phase-1 RCT-83	0.83264947	0.79760033	0.753395	0.753395	0.8764763	0.753395	0.8764763	0.753395	0.8764763	0.753395	0.8764763	0.753395	0.8764763
Phase-1 RCT-270	0.8742212	0.9629648	0.79909137	0.753395	0.8764763	0.753395	0.8764763	0.753395	0.8764763	0.753395	0.8764763	0.753395	0.8764763
Cadherin	1.068841	0.8317786	0.9444654	0.9733243	0.753395	0.8764763	0.753395	0.8764763	0.753395	0.8764763	0.753395	0.8764763	0.753395
Phase-1 RCT-62	0.835591	1.1400013	1.181351	1.198534	1.4748625	1.2625607	1.1630158	0.55515456	0.55515456	0.55515456	0.55515456	0.55515456	0.55515456
Phase-1 RCT-22	1.0074235	1.0273468	0.9065954	0.8239024	0.753395	0.8764763	0.753395	0.8764763	0.753395	0.8764763	0.753395	0.8764763	0.753395
AT3	0.676574	0.8638243	0.9331367	1.1216741	1.02815	1.2625607	1.1630158	0.55515456	0.55515456	0.55515456	0.55515456	0.55515456	0.55515456
Phase-1 RCT-18	0.895071	0.85448937	1.0060569	0.9087328	0.9574703	0.928518	0.9314389	0.9087328	0.9087328	0.9087328	0.9087328	0.9087328	0.9087328
Phase-1 RCT-123	1.0921573	1.0566302	1.0512145	1.13857	1.0538073	1.059516	1.022327	0.8761704	0.8761704	0.8761704	0.8761704	0.8761704	0.8761704
Phase-1 RCT-56	1.2924048	0.87541735	0.9377866	0.8318026	0.8355864	0.8355864	0.8355864	0.8355864	0.8355864	0.8355864	0.8355864	0.8355864	0.8355864
Equilibrative nucleoside/nucleotide co-transporter	0.7307426	0.7673428	0.7789615	0.44337305	0.6903965	0.47206527	0.6600776	1.027347	0.9247708	0.8749513	0.7582243	0.88529557	1.0764995
Glucose transporter 2	0.8797959	1.0275603	0.99231607	1.4217346	1.0531506	1.2378088	1.0657876	1.0515785	1.0077899	1.0077899	1.0077899	1.0077899	1.0077899
Multidrug resistant protein-2	1.4181524	0.8363312	0.8259633	0.762619	0.70531374	0.9218673	1.0628251	1.3881121	1.2979638	1.2979638	1.2979638	1.2979638	1.2979638
Phosphatidylethanolamine-binding protein	1.4155024	0.9981186	0.9259654	0.8638623	0.8699148	1.0241739	1.1238120	0.5851522	1.3915615	1.3915615	1.3915615	1.3915615	1.3915615
Phase-1 RCT-180	1.0512615	1.1940484	1.5775632	1.707024	1.4517055	1.7628988	1.6642288	1.0773555	1.0568577	1.250255	1.1547538	0.9889868	0.98799574
NAADPH beta-4	1.294104	0.9524283	0.97930763	1.2833718	0.96585286	1.0348159	1.089943	1.2317176	1.1748852	1.1748852	1.1748852	1.1748852	1.1748852
Endogenous retroviral sequences, 5' and 3' LTR	0.85196006	1.0200988	0.900885	1.0728246	1.030082	1.307194	1.2012339	1.255021	2.0678434	1.53635	1.4049046	1.4960599	2.16076
Phase-1 RCT-53	0.90162414	1.011387	0.99003524	0.97845227	0.9754775	0.96516298	0.76219235	1.195028	0.76927456	0.8023618	0.8023618	0.8023618	0.8023618
Phase-1 RCT-54	0.91149837	0.5556544	0.95252866	1.2351662	1.0868823	1.1124026	0.95252866	0.9704468	0.9704468	0.9704468	0.9704468	0.9704468	0.9704468
Phase-1 RCT-240	0.8071205	1.084782	1.0762675	0.8332082	0.7354336	0.8372786	0.80041194	1.3292518	1.1325101	1.2319743	0.7631177	0.9531687	1.1495576
Organic anion transporting polypeptide 1	1.1880298	1.0764358	0.9585165	0.4762492	1.1332448	1.4197551	1.0249023	1.0249023	1.0249023	1.0249023	1.0249023	1.0249023	1.0249023
Phase-1 RCT-241	1.0606279	0.89056297	0.9680797	2.0318086	1.0482469	1.028494	1.064651	0.89000395	0.7903242	0.89000395	0.89000395	0.89000395	0.89000395
Cyclin-dependent kinase 4 inhibitor P27kip1 (alternate clone)	0.9695741	1.2550385	1.0276718	1.246465	1.4292948	1.139446	1.0129009	1.1276532	1.0094419	1.0094419	1.0094419	1.0094419	1.0094419
Phase-1 RCT-39	0.8910272	0.95475614	0.8917804	1.1729231	1.0732811	1.0314243	0.8006232	1.0314243	0.8140154	0.8140154	0.8140154	0.8140154	0.8140154
Phase-1 RCT-1258	1.40455	1.0081788	1.0571201	0.84103875	1.0336983	1.042955	0.8673784	0.9347682	0.8653947	1.0417087	1.2819062	0.9504584	0.9256824
Phase-1 RCT-113	1.1410027	1.0170238	0.9736158	1.1841826	1.068572	1.1940484	1.086572	1.1940484	0.95338153	1.247439	1.5932126	1.043673	1.0003363
Adrenoleukodystrophy translocator 1	0.87128153	1.0107899	1.0594313	0.878997	0.7869697	0.7869697	0.7869697	0.7869697	0.7869697	0.7869697	0.7869697	0.7869697	0.7869697
Alpha-1 acid glycoprotein	0.71771	0.9733765	0.9804603	0.878997	1.3566173	2.2230015	1.5230087	0.8155474	0.6510587	1.6815202	1.6415361	1.516816	1.0183785
MHC class II antigen RT1B-1 beta-chain	0.9193634	0.9251205	0.9701574	0.9405395	1.0266768	0.8211171	0.9449589	0.8216547	0.4620495	0.6555884	0.8504353	0.5483819	0.8102344

Organic cation transporter 3	1.5014112	0.9637604	1.1944558	1.3116	1.0265026	1.1544863	1.0537571	0.8558815	0.8695404	0.840578	0.9259863	0.7452281	0.8223234	0.90356926
Hypoxia-inducible factor 1 alpha	0.91960164	1.1338121	1.0163976	1.111922	1.2057654	1.1810203	1.1585556	0.7455033	0.6811855	0.8684495	0.91325945	0.7478085	0.771852	1.1336763
Phase-1 RCT-43	1.0344378	1.1421859	1.0841577	1.1342176	1.1203861	1.0753771	1.0937008	1.00973	0.9818859	0.9067733	1.085154	0.89155596	0.79115915	1.0398039
Phase-1 RCT-45	1.0004749	1.0981597	1.0037135	1.1851278	1.1042911	1.0548273	1.1172342	0.9645755	0.8007338	0.9067733	1.085154	0.90414584	0.7674184	1.0809716
Malate dehydrogenase, cytosolic	0.8338453	0.8336579	0.93475248	0.98918508	1.0454104	1.0232390	1.1243494	0.8527522	1.1403135	1.0257226	1.3567909	1.1645244	1.3695538	1.0490597
VL30 element	0.74078804	0.8693501	1.4827163	1.3432841	1.2813983	1.74082054	0.49235648	1.150825	0.8713443	0.92647445	1.6043578	1.1016504	0.7959885	1.9064653
Phase-1 RCT-189	0.75715715	1.2335457	1.0703472	0.7346783	1.2837465	1.2230958	1.2162031	0.81447446	0.8200388	0.8676954	1.0816386	1.1010633	0.9498167	0.9406541
Alpha-fetoprotein	1.006354	0.909449	0.82068894	0.9449799	0.9440124	0.9247228	0.9695556	0.85105334	1.1201938	0.8589915	1.1074455	0.81708974	0.89068816	1.0537889
Calgranulin B	1.001575	0.91816854	0.9518699	0.76015025	0.8186104	0.7977693	0.9640368	1.0361189	1.0419376	1.3741081	1.0389505	1.3857212	1.361406	0.8523126
Phase-1 RCT-185	0.86035516	1.0526527	1.0376845	0.831418	0.8814535	0.87502503	0.92408	0.9403509	0.900344	0.87900784	0.8459174	0.87115425	0.86332814	0.8556893
Tissue plasminogen activator	1.0943178	0.8286106	1.0376845	0.831418	0.8814535	0.87502503	0.92408	0.9403509	0.900344	0.87900784	0.8459174	0.87115425	0.86332814	0.8556893
Liver fatty acid binding protein	1.2884033	0.8337924	1.0223574	0.9435226	0.9884643	1.033638	0.80891544	1.0673943	1.0473549	0.99302628	1.162833	1.2354031	1.1622168	0.9636301
Alpha-1 microglobulin/bikunin precursor (unibo)	0.9492544	1.0951104	0.9723065	0.9597659	1.0216125	0.9862595	1.0357941	1.3223672	0.89722118	0.96159446	1.512124	1.2920718	1.2138562	0.94952555
Phase-1 RCT-151	1.076741	1.2162556	1.0780443	1.194254	1.2252598	1.3899702	1.0357941	1.3223672	0.89722118	0.96159446	1.512124	1.2920718	1.2138562	0.94952555
Phase-1 RCT-151	1.076741	1.2162556	1.0780443	1.194254	1.2252598	1.3899702	1.0357941	1.3223672	0.89722118	0.96159446	1.512124	1.2920718	1.2138562	0.94952555
Phase-1 RCT-235	1.0755467	0.9150239	1.103459	1.1246943	1.0186245	0.9834673	0.9806533	1.1305763	1.1687772	1.1242984	1.1555163	0.8982739	0.9565634	1.2671851
Phase-1 RCT-235	1.1176978	0.94017607	1.1055647	1.2442632	0.9987655	1.0100876	1.0057018	1.0138435	1.0184895	1.024304	1.1555163	0.8982739	0.9565634	1.2671851
Organic anion transporter 3	0.8575787	1.10363	1.0372127	0.9299071	0.788692	0.8453173	0.8909638	0.9577048	1.0515918	1.014058	1.1555163	0.8982739	0.9565634	1.2671851
Matrix metalloproteinase-1	1.1858462	0.8307637	0.7699087	0.79176176	0.79886425	0.7848874	0.9126493	1.2903256	1.19823	1.054248	1.508303	1.2799987	1.3507673	0.81859463
Urinary protein 2 precursor	0.868904	0.7284542	0.7282764	0.54337156	0.6997538	0.69500336	0.7131872	0.74953825	0.854127	0.844604	0.8553526	0.9944834	1.0522751	1.0879878
Phase-1 RCT-212	0.8524616	0.8273309	0.85521774	0.99730897	0.8605356	0.9575283	0.9095514	0.98279405	0.9522059	1.0293903	1.0131068	0.8411048	0.9564029	0.8542072

(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 1B).

(2) Compound and dose abbreviations as in Table 1.

(3) Individual animal number

(4) Liver inflammation classification for compound-dose group at 72 h; yes-neo, necrosis observed; yes-both, necrosis with inflammation observed; no, no histopathology observed

(5) Predictive gene (as in Table 1B and as included in Table 26)

Table 28

Table 28. Expression Data for 6 Hour Timepoint (1)

Phase-1 RCT-32	1.2240198	0.7983475	0.92072046	0.92193305	0.93404498	1.0836318	1.8165769	1.424212	1.352119	1.239422	1.0106953	1.2120258	1.241053	1.223437
Peridomine assembly factor 1	1.1734082	0.9975077	0.99875074	1.0781085	1.4711468	1.0476531	1.0460261	1.036016	1.036564	1.4047085	1.461822	1.4711708	1.1251168	1.238298
2-oxoglutarate DNA glycosylase	1.3403545	0.92793554	1.0672805	0.9813061	0.84324057	0.9942751	0.9842751	1.141874	1.1355017	0.8547052	0.8547052	0.8547052	0.8547052	0.8547052
Phase-1 RCT-62	0.9709383	0.88646215	0.8672805	0.9813061	0.84324057	0.9942751	0.9842751	1.141874	1.1355017	0.8547052	0.8547052	0.8547052	0.8547052	0.8547052
Martin F6	1.0700721	0.99859544	0.83827645	0.9805036	0.9555549	0.9850133	0.9850133	0.8851244	0.9143867	0.7600463	0.7600463	0.7600463	0.7600463	0.7600463
Phase-1 RCT-184	0.80205944	0.83827645	0.9805036	0.9555549	0.9850133	0.9850133	0.9850133	0.8851244	0.9143867	0.7600463	0.7600463	0.7600463	0.7600463	0.7600463
Phase-1 RCT-168	0.7102844	0.76287436	0.72195107	0.7088559	0.5709583	0.88917226	0.99589478	0.7698506	0.98807013	0.64084143	0.7311688	1.074997	0.8350776	0.8350776
Phase-1 RCT-119	1.0359875	1.2203325	1.5008365	0.9571172	1.1788049	1.0091828	0.99589478	0.7698506	0.98807013	0.64084143	0.7311688	1.074997	0.8350776	0.8350776
Carbonic anhydrase II	1.5001194	1.2443522	0.7833313	0.8036075	0.51119137	1.155595	0.91539705	0.1089766	0.91539705	0.1089766	0.91539705	0.1089766	0.91539705	0.1089766
Thyroglobulin hydroxylase	0.74321423	0.9135288	1.1381304	0.8054801	0.97723347	0.9127359	0.9082804	0.8006062	0.8327201	0.7846685	0.62739456	1.169393	0.8662917	1.1195056
Phase-1 RCT-71	0.8617535	0.90405464	1.1807425	1.4632176	1.5235318	0.9734769	0.90475434	0.943261	1.4141116	1.0318888	1.0447232	0.9172593	1.1855267	1.3177061
Phase-1 RCT-179	0.87235326	0.95253474	0.8622563	0.7153452	0.41943187	1.046907	0.98414695	0.98504104	0.9278724	1.0693409	0.9592808	1.0277698	1.0204151	1.424281
Phase-1 RCT-267	1.202655	0.959709	1.1011415	1.1091803	0.1794051	0.96551424	0.9223884	0.9361134	0.2593434	1.0623409	0.9592808	1.0277698	1.0204151	1.424281
Phase-1 RCT-140	1.1833551	1.0534021	1.0354841	1.4663204	1.6042608	1.1374668	0.2007443	1.8356702	1.6268665	0.2030773	1.8029663	1.2085699	1.1826333	1.424281
Phase-1 RCT-225	0.981434	0.5906367	0.8492003	0.9982911	0.8933634	0.830308	0.830308	1.1242468	0.413761635	0.6065357	0.6127236	0.6736742	1.2321031	0.7706027
Cytochrome P450 2E1	0.9444084	0.8630553	0.5715576	0.5324465	0.55357387	1.1385325	1.1242468	0.413761635	0.6065357	0.6127236	0.6736742	1.2321031	0.7706027	0.7706027
D-1	1.27443	0.862674	0.9228274	0.94203585	0.93175	0.916449	1.284487	1.1019382	1.075317	1.389517	1.1907985	0.69451446	0.70780364	0.820941
Thioredoxin-1 (Trx1)	1.2433465	1.0286761	0.99359007	1.1378111	1.0943552	0.8742204	0.9403004	0.8772363	1.0355676	1.3040414	1.4386245	1.1425707	0.981987	1.0223007
Carbonic anhydrase III	0.87874966	1.6808068	1.1941285	0.9317983	0.9882264	0.9642846	0.9501537	0.95297533	1.1206074	1.1117298	0.894988	0.90258133	0.572907	0.356305
Phase-1 RCT-140	1.049482	0.9804684	0.92897185	0.9317983	0.9882264	0.9642846	0.9501537	0.95297533	1.1206074	1.1117298	0.894988	0.90258133	0.572907	0.356305
Complement component C3	0.87598103	1.0219176	1.2655561	1.3955281	1.4282867	0.87813973	1.1188988	1.0403963	1.1705262	1.2021538	1.1601868	1.1431789	0.854556	1.2888001
Glucanase	2.0241113	0.71657413	1.2668168	0.9717113	0.47413268	0.9283198	1.0452824	1.0891162	0.17827472	0.6398936	0.5122063	0.4392007	1.0890662	0.77798827
Phase-1 RCT-173	1.1316072	1.002172	0.8278406	0.8215004	0.7439045	0.8722788	0.7082596	0.8787341	1.290235	0.8920458	0.50569	0.49894707	0.8641028	0.6828304
3-methyladenine DNA glycosylase	1.5303708	1.308232	0.8391614	0.95079138	0.6768274	1.054077	1.1021765	1.0856712	1.290235	0.8920458	0.50569	0.49894707	0.8641028	0.6828304
Proteinase-1	0.9293192	1.038504	1.1712062	1.1154138	1.0727375	0.8266418	0.8266418	0.9635738	1.2593434	1.1665587	1.1638746	1.3885564	1.0118332	1.2056176
Proteinase-1	0.9293192	1.038504	1.1712062	1.1154138	1.0727375	0.8266418	0.8266418	0.9635738	1.2593434	1.1665587	1.1638746	1.3885564	1.0118332	1.2056176
Proteinase-1	0.9293192	1.038504	1.1712062	1.1154138	1.0727375	0.8266418	0.8266418	0.9635738	1.2593434	1.1665587	1.1638746	1.3885564	1.0118332	1.2056176
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786094	0.8909184	0.8520673	0.82832813	0.7719845	0.9577521	0.89871234	0.87207156	0.707805	0.9545589	0.865555	1.0881213	0.878625	0.89226393
Phase-1 RCT-40	0.786													

Phase-1 RCT-72	1.11286689	1.06203031	1.00975117	1.0178484	0.94089854	0.98066163	0.98594754	1.0880735	0.5626881	0.8767434	0.84131676	0.83819421	1.0144036	0.8813345
Pyruvate kinase, muscle	1.05295312	0.7241072	0.9316063	1.0223086	0.9572456	0.9872456	1.00905	1.1642033	0.9606314	2.2459893	1.7085382	1.542886	0.8593308	1.0015913
Phase-1 RCT-288	0.65243423	0.83434623	0.7957234	0.7957234	0.8023998	0.8023998	0.8023998	0.8023998	0.8023998	0.8023998	0.8023998	0.8023998	0.8023998	0.8023998
Phase-1 RCT-90	1.1932207	1.066006	0.9606178	1.0738688	0.95868	1.056722	1.074734	0.945512	0.945512	0.945512	0.945512	0.945512	0.945512	0.945512
Cytochrome P450 2C39 (alternate clone 2)	0.4171272	0.40469366	0.54885	0.41835155	1.2179367	0.9671461	0.960418	0.8670533	0.8670533	0.8670533	0.8670533	0.8670533	0.8670533	0.8670533
Phase-1 RCT-290	1.1113064	1.0911269	1.0589725	1.0589725	1.0589725	1.0589725	1.0589725	1.0589725	1.0589725	1.0589725	1.0589725	1.0589725	1.0589725	1.0589725
Phase-1 RCT-261	1.0361693	1.1488336	1.0744517	1.0744517	1.0744517	1.0744517	1.0744517	1.0744517	1.0744517	1.0744517	1.0744517	1.0744517	1.0744517	1.0744517
MethylCoA racemase alpha	0.6848215	1.0345472	1.060332	1.060332	1.060332	1.060332	1.060332	1.060332	1.060332	1.060332	1.060332	1.060332	1.060332	1.060332
Cytochrome P450 1A2	2.3747916	0.6091305	0.7260283	0.7578712	0.6086055	0.683176	1.044573	0.89240164	0.97879228	1.041609	1.1190205	0.731136	0.9021632	0.8461243
Phase-1 RCT-287	1.2170287	0.813074	1.0523255	0.9515718	0.74841885	1.0257521	1.0044437	0.89240164	0.97879228	1.041609	1.1190205	0.731136	0.9021632	0.8461243
Methionine adenosine B	0.187098	0.6605024	0.6605024	0.6605024	0.6605024	0.6605024	0.6605024	0.6605024	0.6605024	0.6605024	0.6605024	0.6605024	0.6605024	0.6605024
Phase-1 RCT-143	0.86978287	0.7827725	0.8690221	0.8690221	0.8690221	0.8690221	0.8690221	0.8690221	0.8690221	0.8690221	0.8690221	0.8690221	0.8690221	0.8690221
Phase-1 RCT-117	0.8622227	0.8481265	0.8160003	0.8160003	0.8160003	0.8160003	0.8160003	0.8160003	0.8160003	0.8160003	0.8160003	0.8160003	0.8160003	0.8160003
Phase-1 RCT-281	1.1267732	0.985571	1.2140561	1.070303	0.77809104	0.82870075	1.0136365	1.0593925	0.8026578	0.8026578	0.8026578	0.8026578	0.8026578	0.8026578
Glutathione S-transferase theta-1	0.88603597	0.97428178	0.84560135	0.8732874	0.8732874	0.8732874	0.8732874	0.8732874	0.8732874	0.8732874	0.8732874	0.8732874	0.8732874	0.8732874
Phase-1 RCT-91	0.972727067	0.68557215	0.79969595	0.66959595	0.5444971	0.8384454	0.7745895	0.757107	0.4496538	0.4496538	0.4496538	0.4496538	0.4496538	0.4496538
Phase-1 RCT-142	0.87469673	0.93939374	0.77095085	0.67979695	0.85916173	1.0060521	1.1985971	1.059628	0.9266316	0.9266316	0.9266316	0.9266316	0.9266316	0.9266316
Activin receptor type II	1.0725551	0.9418409	1.032944	1.076709	1.1379069	1.0594208	1.0226249	0.9197402	0.1798626	0.1798626	0.1798626	0.1798626	0.1798626	0.1798626
Glycine methyltransferase	0.86103755	0.5943331	1.036075	0.80257714	0.70955515	0.9110533	0.937775	0.8780854	1.0044746	1.1353689	0.94018234	0.68519413	0.82670884	0.82670884
Phase-1 RCT-284	0.70513976	0.7715419	1.0120862	1.0759405	0.9545325	0.82220378	0.8946534	1.2620845	0.80992916	0.7512876	0.7127828	0.8271818	0.8271818	0.8271818
Gap junction membrane channel protein beta 1 (Gjb1)	1.5170045	0.8279812	0.96161856	1.1446334	1.2572943	1.0648479	1.2022071	1.103411	1.2717174	1.4752187	0.9686017	0.85858735	0.9288905	1.0068656
Phase-1 RCT-68	0.7521412	0.90091035	0.78234184	0.6807156	0.6504583	0.7201746	0.745288	0.4496286	0.63048565	0.49204105	0.59763876	0.6986874	0.596832	0.45468563
Phase-1 RCT-287	1.1253036	1.0771159	0.8669778	0.92018354	0.86620864	1.0130888	0.78042816	0.9639254	1.2922467	1.0632173	1.0715896	0.5872562	0.9814086	0.8463182
Retinol-binding protein (RBP)	0.94372034	0.9742486	0.706684	0.82739248	0.6867866	1.0045755	0.98841033	1.056937	0.688357	0.688357	0.688357	0.688357	0.688357	0.688357
Very long-chain acyl-CoA synthetase	0.84244664	0.8623703	0.7403276	0.9004368	0.6898346	0.94641187	0.7731861	0.9520298	1.105175	1.156612	1.3901563	1.3211428	1.0235212	0.96291035
Sulfatase	0.9883888	1.0356703	1.1226386	1.10823	1.8494141	0.8719067	0.8719067	0.8719067	0.8719067	0.8719067	0.8719067	0.8719067	0.8719067	0.8719067
Phase-1 RCT-145	1.2979236	0.9188893	0.8339882	0.8726096	0.8726096	0.8726096	0.8726096	0.8726096	0.8726096	0.8726096	0.8726096	0.8726096	0.8726096	0.8726096
Actin	0.8402559	0.9589738	0.94774914	0.7988856	0.80823004	0.9779503	0.9344263	0.9344263	0.9344263	0.9344263	0.9344263	0.9344263	0.9344263	0.9344263
Phase-1 RCT-69	1.6920335	0.9058714	1.01081	0.7259895	0.8481871	0.99735768	0.9534024	0.9515915	0.8811791	0.72442778	0.7492738	1.0401533	0.89818238	0.8282828
Sarcolemmal reticulum calcium ATPase	1.4589427	1.2333715	1.1359707	1.2044669	1.158322	1.1692326	1.0805093	1.1615445	0.8081075	0.762101	0.81271463	0.8692316	1.027774	0.982828
Alpha-2-macroglobulin, sequence 2	0.89947045	1.2038013	1.3822649	1.2664762	1.4812544	1.1668213	1.2614	1.0791031	2.4648744	1.3544884	1.6820501	1.180492	1.076787	0.943541
Phase-1 RCT-204	0.8572375	1.0275885	1.0440515	0.9435316	0.9641559	1.0407457	1.1590591	1.183812	0.9782744	1.3176935	1.4610274	1.058602	1.016859	1.0772231
Vascular endothelial growth factor	0.90567853	1.0450022	1.365818	1.4440253	1.3695593	0.82467324	0.68875073	0.42264345	0.9613907	0.2652531	1.0849011	1.065487	0.8252749	0.9173895
NADP-dependent isocitrate dehydrogenase, cytosolic	0.78892183	0.78102225	0.6321428	0.5843269	0.5092559	0.80881834	0.98125655	0.8609651	0.37688888	0.5725113	0.6310725	1.3144648	0.97830284	1.1305422
DNA binding protein inhibitor D2	0.7976227	0.63222593	0.78801686	0.8218594	0.72507495	0.9233253	0.73504565	0.89189655	0.363705	0.7630512	0.9396955	1.1943055	0.8417332	1.004662
Glutathione S-transferase Ya	0.6763375	0.4772414	0.5833659	0.48975715	0.48902565	0.6842478	0.5919328	0.37291782	0.3956381	1.1242813	0.7971206	1.2824221	0.8061484	1.0001603
Epoxide hydrolase	1.1250393	0.8088646	0.9082554	0.6578536	0.70304734	1.121683	1.0516355	1.0508515	0.5971629	0.6958015	0.84951725	0.6466841	2.104094	1.2420924
Insulin-like growth factor I	0.8302063	0.8320315	0.8020158	0.9281378	0.8183862	0.562788	0.7655206	0.7480248	0.98003516	0.9657026	1.0736802	1.4300099	0.8372641	1.0461755
Prostaglandin H synthase	1.4491075	1.4748531	1.3127077	1.3183804	0.680688	1.0340427	0.774467	0.78451305	1.2532284	0.64765554	1.1775637	1.0245727	0.9082961	1.8206201
Phase-1 RCT-138	0.8787208	0.840318	0.8028531	0.7327054	0.7153854	0.7648046	1.050084	0.9814004	1.082282	0.8519544	0.9703506	1.0867189	0.9082961	0.9082961
Phase-1 RCT-137	0.72249365	0.9689762	0.9192005	0.7468168	0.7620508	0.77657273	0.8503527	0.77064353	0.7409734	1.04011	1.6355785	1.2646078	1.5327364	1.0250694
Phase-1 RCT-136	1.0924107	0.9467882	0.8941123	0.8576363	1.0030769	0.8921892	1.0529249	0.95287833	1.0593242	1.0221212	1.004732	1.4511397	0.9783584	1.0250694
Hepatic lipase	1.0804584	0.8628196	0.8872328	0.74332535	0.92831737	1.0038943	1.0069807	1.0208118	1.011057	0.8652315	0.7701684	0.8434484	1.0876572	1.708828
Phase-1 RCT-164	0.73418343	0.9537615	0.9041027	0.80357646	1.0741017	0.8288551	0.6504667	0.6544637	0.8913468	1.0813468	1.0303494	0.97869574	1.1945889	1.0343387
Acyl-CoA dehydrogenase, medium chain	0.96038006	1.0035591	0.89880705	0.8442597	0.73735945	0.9489108	0.82758796	0.7238478	0.97308378	0.8912578	1.1645243	1.2098232	1.1467737	1.0034412
Glutathione S-transferase Y02 subunit	0.7698092	0.8821273	0.8530419	0.7165104	0.5710593	0.64834386	0.65764837	0.7123842	0.63271184	0.9116054	1.0740034	1.2952852	0.8911147	0.986959707
Carbonic dehydratase	1.4050258	0.94714874	0.95880073	1.080645	0.6333359	0.74713578	0.8877608	0.8566158	1.0028731	0.55420328	0.7722857	0.887169	1.1341477	1.0250694
Phase-1 RCT-186	0.6566228	0.8104388	0.9578854	0.8707529	0.7809045	0.442387	0.7809045	0.442387	0.8566158	1.0028731	0.55420328	0.7722857	0.887169	1.1341477
Acyl-CoA oxidase	0.88790774	0.8104388	0.9578854	0.8707529	0.7809045	0.442387	0.7809045	0.442387	0.8566158	1.0028731	0.55420328	0.7722857	0.887169	1.1341477
UDP-glucuronosyltransferase	0.8649113	0.5326588	1.146808	1.331276	1.533167	0.67339134	0.61587368	0.81190253	0.45093	0.70457554	0.93475044	0.8718754	0.9966891	0.9265007
Phase-1 RCT-185	1.1868584	0.86273837	1.334826	1.331276	1.533167	0.67339134	0.61587368	0.81190253	0.45093	0.70457554	0.93475044	0.8718754	0.9966891	0.9265007
Glutathione S-transferase P1	1.0468659	0.8659744	0.9190757	1.2033999	1.2277021	0.737059	0.9051936	0.9051936	0.9051936	0.9051936	0.9051936	0.9051936	0.9051936	0.9051936
Disulfide isomerase related protein (ERp72)	0.6564133	0.8569672	0.8823424	0.8591063	0.5216337	0.783109	0.783109	0.783109	0.783109	0.783109	0.783109	0.783109	0.783109	0.783109
Ribosomal protein L13	1.0257492	1.0407638	1.821434	1.1516683	1.821434	1.1516683	1.821434	1.1516683	1.821434	1.1516683	1.821434	1.1516683	1.821434	1.1516683
Ceruloplasmin	1.1495565	1.2779523	2.2160716	1.8615875	2.9851322	1.1960512	1.3955318	1.6495878	1.8896604	2.5545988	2.5016444	1.2440804	0.9857476	1.6302126
Inter-alpha-inhibitor H4 heavy chain (Ilt4)														

Phase-1 RCT-3	0.9249347	1.036051	0.9514012	0.9483832	1.0373192	1.0655747	1.1278121	1.0374925	1.0119382	0.88250834	0.8702423	1.0808749
Fetuin beta (beta)	0.5530327	0.81741168	0.9333674	0.7504538	0.72925165	0.92487146	0.9755356	0.9091958	1.359	1.787976	1.0377686	1.7894828
3-hydroxyisovalerate dehydrogenase	0.198423	0.8534313	0.8947817	0.9208298	0.915007	0.8679148	0.9645195	0.9248734	0.9455883	0.9274411	0.8533824	1.8533824
Carbonic anhydrase III, sequence 2	0.4570282	0.89746313	0.75339115	0.8167214	0.60239178	0.8330366	0.7061009	0.9811767	0.7767393	1.5435365	0.9040374	0.9343855
Phase-1 RCT-10	0.8080866	0.95553493	0.7370394	0.7370394	0.7370394	0.7370394	0.7370394	0.7370394	0.7370394	0.7370394	0.7370394	0.7370394
Alpha-2-microglobulin	1.2169167	1.8916727	1.303728	1.969385	0.785545	0.7357068	0.6764157	0.53229684	0.8013108	1.7833639	0.5547428	0.5092722
Dynamin-1 (D100)	0.8877086	1.1909509	1.095952	0.9354551	0.4300023	1.0817142	0.426508	0.73226678	0.8824705	1.00552	0.8224978	0.8594008
Lysozyme	1.0913305	1.428218	1.103881	1.335989	1.2841323	1.025924	0.9071847	0.7653904	0.9881112	0.932188	0.85020343	0.7843824
Phase-1 RCT-282	0.8562387	1.3241653	1.246863	1.3241653	1.246863	1.3241653	1.246863	1.3241653	1.246863	1.3241653	1.246863	1.3241653
Phase-1 RCT-29	1.2194675	1.246867	1.3241653	1.246867	1.3241653	1.246867	1.3241653	1.246867	1.3241653	1.246867	1.3241653	1.246867
Phase-1 RCT-278	1.1561931	1.425752	1.273904	1.273904	1.273904	1.273904	1.273904	1.273904	1.273904	1.273904	1.273904	1.273904
Phase-1 RCT-42	0.9975127	0.9797118	1.0616513	0.9384283	1.0105377	0.9673221	1.285199	1.426868	1.054523	0.985391	1.045454	0.9638942
Phase-1 RCT-25	1.076348	1.188812	1.188812	1.188812	1.188812	1.188812	1.188812	1.188812	1.188812	1.188812	1.188812	1.188812
Chondrocyte P450 2C11	1.971347	1.245675	1.3073006	0.9065509	0.855657	0.6425245	0.8345884	0.8442428	1.1151834	1.163472	1.1880332	1.178654
Phase-1 RCT-202	0.8365338	0.92687035	0.9065509	0.855657	0.6425245	0.8345884	0.8442428	1.1151834	1.163472	1.1880332	1.178654	1.178654
Complement factor 1 (CFI)	1.0654101	1.0654043	1.1693677	0.9729175	1.2522231	1.0434054	1.2343661	1.4680114	1.4021624	1.427327	1.4506018	1.0654043
Proliferating cell nuclear antigen gene	1.9752729	1.0897611	0.9987466	1.1767169	1.1303311	1.0802057	0.84024376	0.7814349	1.2893726	0.8646824	1.0887715	0.9883946
Activating transcription factor 3	1.2706071	1.3001816	1.1531835	0.9209164	1.0283355	1.0872172	1.1564238	1.0712708	1.2893726	0.8646824	1.0887715	0.9883946
Focal adhesion kinase (p125-AK)	0.9100221	0.85174685	1.2039348	1.4318284	1.5430435	0.9226681	0.6227616	0.6781823	0.33126304	0.45168434	0.4163378	1.013532
Phase-1 RCT-289	0.7915212	0.9534344	0.91087947	0.7659076	0.7659076	0.7659076	0.7659076	0.7659076	0.7659076	0.7659076	0.7659076	0.7659076
Phase-1 RCT-259	0.88557935	0.89572924	0.8457781	0.968417	0.968417	0.968417	0.968417	0.968417	0.968417	0.968417	0.968417	0.968417
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078	0.7095078
Phase-1 RCT-171	1.0185213	0.8791832	0.8049303	0.7095078	0.7095078	0.7095078	0.7095078	0.709507				

Organic cation transporter 3	0.933156	1.0621064	1.1231463	1.3231037	1.5328422	1.1827633	1.3144175	1.3974421	1.8188026	1.7209445	1.5093229	1.0460919	1.286999	1.2236713
Hypoxia-inducible factor 1 alpha	1.5540093	1.0225453	1.147573	1.0095788	1.1074895	1.0765686	0.98088783	1	1.5452443	0.6908268	0.7189276	0.69835913	0.9408387	0.85875654
Phase-1 RCT-43	0.8891084	0.9924736	1.0599907	1.1113504	0.9916421	0.9843811	0.8003959	0.8523396	1.3839713	0.92381775	0.8802217	0.6594529	0.99945027	0.85868613
Phase-1 RCT-48	0.81700786	1.0206978	0.8219173	1.0684641	1.2605636	1.0278314	0.7681511	0.9172204	1.3284978	0.7888039	0.7790984	0.59416366	1.00980338	0.81193814
Matrix dehydrogenase, cytosolic	0.9398255	1.181727	1.3058571	0.81307155	1.2335563	1.0563565	1.1708597	1.107557	0.8352919	1.0433532	1.3237928	1.3057724	1.1475165	1.2614138
U230 esterase	1.2242763	1.2147409	2.2318375	1.3271598	1.4606187	0.6315161	0.4247112	0.2863984	0.84619063	0.5851381	0.8322201	0.8815502	1.4104764	1.3384132
Phase-1 RCT-189	1.7805562	1.052446	0.9712824	0.81622744	0.8880434	0.40699465	0.6837116	0.67521447	0.7303891	0.7444065	0.84836534	1.3505502	0.92549465	1.05254
Alpha-fetoprotein	1.0844042	0.9523705	0.968397	0.982236	1.0904053	1.0238725	0.9842022	0.9553019	1.0369917	1.0744078	0.9560884	1.0796543	0.962081	0.9397491
Calgranulin B	0.9728218	1.0284517	1.0007716	0.84241036	0.7821339	0.4479208	0.9288713	0.8333473	0.9777702	1.1832201	1.0666332	1.2334346	1.1207012	1.1579784
Tissue plasminogen activator	1.1075803	0.85440434	0.802717	1.0023751	0.85428484	0.9739275	0.9208233	1.0168768	0.68531885	0.8091388	0.67084377	1.0144466	1.0354848	0.9818622
Phase-1 RCT-195	0.8168771	1.0868597	1.1279451	0.8530591	1.1125832	0.8165157	1.0367306	1.1303734	0.946268	1.8533053	1.7700725	1.0144466	1.0354848	0.9818622
Liver fatty acid binding protein	1.1759814	1.2549381	0.8269469	1.0043005	0.96595124	1.0451453	1.0067306	1.1303734	0.946268	1.8533053	1.7700725	1.0144466	1.0354848	0.9818622
Alpha-1 microglobulin/kinin precursor (Amp)	0.9468732	0.79892266	1.1318814	1.0597104	1.1149024	1.0134754	1.3528938	1.2303454	1.2447114	1.2073209	1.0916915	0.7105288	1.0038648	0.8667755
Phase-1 RCT-151	1.0291665	1.0901399	0.9628014	0.85114246	1.0317845	1.0179965	1.0028978	0.9917208	1.2447114	1.2073209	1.0916915	0.7105288	1.0038648	0.8667755
Phase-1 RCT-221	0.8851078	0.85913565	1.0652033	1.2028864	1.0389584	0.8833555	1.1491623	0.9876384	1.3006711	0.89021695	0.8922635	0.86971253	1.001497	0.9750085
Phase-1 RCT-225	1.1892351	1.1344316	1.201602	1.3227752	1.2214118	0.9577521	0.95800143	0.9749907	1.1863466	0.71216106	0.69156307	0.8420841	0.561485	0.95584077
Organic anion transporter 3	1.7519599	0.93863966	0.9588806	0.9235021	0.84227574	1.2088959	1.088761	1.1871523	0.78247804	1.3650472	1.3103944	1.0567423	0.9488346	1.1383064
Matrix metalloproteinase-1	0.7619056	0.90451527	0.8295906	0.8764577	0.892512	1.0788953	0.8295906	0.8764577	0.892512	1.0788953	0.8295906	0.8764577	0.892512	1.0788953
Ureteric protein 2 precursor	0.753904	1.0566113	0.8287347	1.0035633	0.7409178	0.81143326	0.7159207	0.7868173	0.7725698	1.2641414	1.3224704	0.9773669	0.9788357	1.0485431
Phase-1 RCT-212	1.1834183	0.79392266	0.9503546	0.96758645	0.9860859	1.0212438	1.0051414	1.1682861	0.8533462	0.8230196	0.76086735	1.0761214	1.1818571	0.8673836
(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 19).														
(2) Compound and dose abbreviations as in Table 1.														
(3) Individual animal number														
(4) Liver inflammation classification for compound-dose group at 72 h: yes-necr, necrosis observed; yes-bath, necrosis with inflammation observed; no, no histopathology observed														
(5) Predictive gene as in Table 18 and as included in Table 26)														

Table 28

Table 28. Expression Data for 6 Hour Timepoint (1)													
Compound/Dose (2)	THEO 100	THEO 100	THEO 100	THEO 100	ANIT 60	ANIT 60	ANIT 60	ANIT 60	ANIT 60	ANIT 60	ANIT 60	ANIT 60	ANIT 60
Animal Number (3)	no	2531	2532	2533	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both
Animal Toxicity Inflammation Classification (4)	no	no	no	no	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both
Gene Name (5)	no	no	no	no	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both
Insulin-like growth factor binding protein 1	1.380036	1.857065	1.019587	0.81052405	0.9387315	0.78610766	1.2302867	1.150937	1.222405	1.099547	1.949942	1.915724	1.3216093
Gadd45	0.95312494	1.2840845	0.8533042	0.86726047	0.7812951	0.82943305	3.8833592	1.1698112	2.260451	1.099547	1.949942	1.915724	1.3216093
c-myc	3.7897053	2.3549673	1.0720751	1.331713	1.2711369	1.6993288	1.0013629	1.0864643	1.1761646	1.162606	1.8631449	1.5257095	0.9941691
NIPK	1.2178138	1.0404977	1.0893463	1.1544943	1.2884283	0.9513855	1.1420004	0.9769894	1.481261	2.3261423	1.6631947	2.8327847	1.7091045
Cathepsin L sequence 2	1.6367413	1.8376412	1.9477276	1.7312754	1.7211687	1.1740044	0.98034075	0.9523836	1.048781	2.4110518	1.530977	10.857206	2.7433302
Heme oxygenase	3.2060776	5.717468	2.4668841	1.794832	0.8409588	1.2035496	1.2035496	0.9523836	1.048781	2.4110518	1.530977	10.857206	2.7433302
Phase-1 RCT-109	1.1545151	1.1472744	0.97805595	1.052526	1.0412248	0.9200573	1.2342706	1.167453	1.024278	1.2659044	1.1078321	1.382117	1.3617204
Phase-1 RCT-111	1.0196103	1.0301375	0.8148504	0.82058704	0.82058704	0.82058704	0.82058704	0.82058704	0.82058704	0.82058704	0.82058704	0.82058704	0.82058704
Angiotensin-converting enzyme	1.13663	1.393211	1.1975	0.92072225	0.94515125	0.9147284	0.82470405	1.0540965	1.0030685	1.7641445	1.1284443	1.1373053	1.2110154
DNA polymerase beta	1.003415	1.0555971	0.8328757	0.5786254	1.035193	1.120381	0.8601854	1.153739	1.0009985	1.027684	1.9821272	1.0209889	1.4300656
Phase-1 RCT-103	1.462142	1.849673	1.5786254	1.0728134	1.0273987	1.0081445	0.82729185	0.82729185	0.82729185	0.82729185	0.82729185	0.82729185	0.82729185
Ribosomal protein S9	1.3025768	1.16233	0.90182217	0.7292134	1.0273987	1.0081445	0.82729185	0.82729185	0.82729185	0.82729185	0.82729185	0.82729185	0.82729185
Phase-1 RCT-114	2.2042453	1.7152029	1.2592271	1.002485	0.9228243	1.0758921	1.1482751	1.2088318	1.2805529	1.3052436	1.520685	1.5668663	1.416154
Phase-1 RCT-15	0.9516312	1.0026371	0.9322481	1.097508	1.2306837	0.9851803	1.510947	1.1140451	1.6523349	2.151769	0.88087505	0.92157006	1.174691
Macrophage inflammatory protein-2 alpha	4.0344834	1.3756221	0.8526026	0.93514025	0.9743493	0.8858584	2.5088343	1.6741941	2.6233454	1.7038452	1.0988772	0.9887258	1.1338862
NGF-inducible anti-proliferative putative secreted protein (PC3)	1.088357	0.86022013	0.7840951	1.5742143	1.7491634	1.3382784	1.0467099	1.2033802	1.288451	1.1025712	1.7655634	1.6238872	1.3881205
Phase-1 RCT-191	1.5247895	1.5182159	1.4915265	0.90630245	0.9409319	0.84635248	1.0356537	1.0341281	1.0489249	0.74065295	0.78715863	0.75362036	0.722844
Orn D3	1.4216951	1.2506069	1.5300031	0.8282824	0.88701653	0.84633955	0.982978	1.0074925	1.0550458	1.2394666	0.9224317	0.90043875	0.91254264
Phase-1 RCT-108	1.0740281	1.0007329	0.8557837	0.85402596	0.9689586	0.89457124	1.0161667	0.9467217	0.9727332	1.3904485	1.1481444	1.1652432	1.3118787
Phase-1 RCT-59	1.5900214	1.4347157	0.99100304	0.8222793	1.0388464	0.8231025	1.2598821	1.0395311	1.7890021	1.0061321	0.9869883	1.0018475	1.109819
Phase-1 RCT-192	1.0365897	1.1588008	1.2053969	1.1351922	0.9157337	1.0267438	1.0267438	1.0267438	1.0267438	1.0267438	1.0267438	1.0267438	1.0267438
Phase-1 RCT-75	1.2522854	1.2256071	1.4222938	1.6139696	1.3571438	1.1680391	1.065571	1.1846697	0.9762557	1.9877325	1.1161382	1.2327073	1.2577907
Acetyl-CoA carboxylase	1.2608328	1.5450202	2.034776	1.0823063	0.9888095	0.93437395	0.9718237	0.8892385	0.81659297	1.1107398	0.8904163	0.82446516	0.8188807
Phase-1 RCT-95	0.9535046	0.97854834	0.89558434	1.0562146	0.98517615	0.93154895	1.0716897	0.95789504	1.0153388	1.3468812	1.1567188	1.0486654	1.2089784
Cystatin C	1.1551329	1.2614998	1.5499185	1.2221726	0.7830142	0.8566395	1.0765185	0.9170281	1.0299398	1.921314	1.435276	1.7481698	1.9743266
Phase-1 RCT-49	2.1705317	2.4710927	2.0027894	1.1491555	1.02307	1.0143225	1.6571907	1.2052785	1.6079613	1.8145341	1.453434	1.0510784	0.9545476
Phase-1 RCT-9	0.73973896	0.86510514	0.806419	1.3043343	1.12733	0.8677546	0.9004484	1.0782363	0.9318375	1.8145341	1.453434	1.0510784	0.9545476
Phase-1 RCT-156	2.3452342	2.2720706	1.285205	0.62633674	0.9540937	0.9897334	2.0274984	2.584132	1.7730714	1.966831	1.8286704	1.5349273	1.107852
Gard45	0.89110395	0.8248524	0.811462	0.99704828	0.9875792	1.0578746	1.0578746	1.0578746	1.0578746	1.0578746	1.0578746	1.0578746	1.0578746
Phase-1 RCT-127	2.0738037	2.3874843	1.6278388	1.0834774	1.1459012	1.0578746	1.0578746	1.0578746	1.0578746	1.0578746	1.0578746	1.0578746	1.0578746
Macrophage inflammatory protein-1 alpha	1.5353768	1.1271833	0.9955105	1.4384342	1.287878	1.0269728	1.0269728	1.0269728	1.0269728	1.0269728	1.0269728	1.0269728	1.0269728
Zinc finger protein	2.7797558	2.394884	1.356024	1.3538867	0.8893516	1.0269728	1.0269728	1.0269728	1.0269728	1.0269728	1.0269728	1.0269728	1.0269728
Phase-1 RCT-73	0.581481	0.7147318	0.8293315	0.80072814	0.9510467	0.85911495	0.89744717	0.97134296	0.8948707	0.92532873	0.9386727	0.9707304	0.9355946
Glutamine synthetase	0.6917998	0.7057206	1.2005938	0.83846486	0.8188794	1.0502946	0.9870188	0.8843474	0.9600273	1.0161415	1.7470182	0.72955594	0.86971813
Phase-1 RCT-242	0.82856464	1.2686068	1.0474222	0.5508674	0.61510855	0.6679841	0.8031535	0.90768536	1.0161415	1.7470182	0.72955594	0.86971813	0.93409187
Phase-1 RCT-50	9.1628475	2.615471	1.2044868	1.2816093	1.0942544	1.1520943	2.9460118	1.8133538	3.0279515	0.985811	0.781801	0.7287905	0.7506717
Phase-1 RCT-157	3.4928575	1.7231	0.9665522	2.588153	1.1561269	1.1628665	2.374917	1.2867305	2.4035218	0.96552636	0.7723147	0.8375353	0.78913236
Elongation factor-1 alpha	0.8643942	1.1922263	0.93923473	0.8343079	0.8516285	0.8428534	0.8776314	0.876751	0.8144835	1.8239547	1.4228185	1.4122687	1.422687
Integrin beta1	7.585116	1.7902743	1.2665578	0.9006036	0.98908454	0.8613259	1.4203438	1.1860901	1.4045798	1.365108	1.033444	0.8836152	0.8371238
Insulin-like growth factor binding protein 5	2.2298082	2.3834777	1.3852359	1.0277894	1.1726709	1.0552358	3.4909768	2.7274478	3.0521646	1.4250476	1.6097492	1.4051615	1.2838614
Phase-1 RCT-76	0.8225686	0.8838699	0.84818417	1.0277894	1.1726709	1.0552358	3.4909768	2.7274478	3.0521646	1.4250476	1.6097492	1.4051615	1.2838614
Fertilin H-chain	0.70442873	0.7879279	0.67952632	0.7070822	0.7071592	0.6641248	1.0360732	0.8713707	0.9948745	0.9948745	1.3617979	1.1845389	1.098434
Selenoprotein P	0.34870835	0.5076284	0.6795181	0.57555866	0.5607339	0.8843704	0.840919	0.949031	0.934745	0.963273	1.053069	1.676563	1.5554856
PTEN/MAC1	0.4814647	1.0591648	1.1809256	0.9427953	0.88558835	0.8843704	0.840919	0.949031	0.934745	0.963273	1.053069	1.676563	1.5554856
Phase-1 RCT-214	0.3424636	0.42878658	0.48252755	0.953472	1.0031888	0.9564783	0.7124368	1.0947683	1.0947683	1.0947683	1.0947683	1.0947683	1.0947683
Phase-1 RCT-112	1.0097594	1.0409375	1.1912842	1.083726	0.9593536	1.1669443	1.1669443	1.1669443	1.1669443	1.1669443	1.1669443	1.1669443	1.1669443
Thymidine synthase	1.0648315	1.011486	1.0660153	0.9404887	0.953401	0.9762096	0.961453	0.961453	0.961453	0.961453	0.961453	0.961453	0.961453
Phase-1 RCT-13	0.9278798	0.4244282	0.49410803	0.3221814	0.8140652	0.7333493	0.7333493	0.7333493	0.7333493	0.7333493	0.7333493	0.7333493	0.7333493
Nucleosome assembly protein	0.55052924	0.53660136	0.6443425	0.5883454	0.6116998	0.6116998	0.6116998	0.6116998	0.6116998	0.6116998	0.6116998	0.6116998	0.6116998
Cholesterol 7 alpha-hydroxylase (P450 VII)	1.1003965	0.9144043	0.9829329	0.8818946	0.8116998	0.8116998	0.8116998	0.8116998	0.8116998	0.8116998	0.8116998	0.8116998	0.8116998
Vesicular monoamine transporter (VMAT)	1.6070196	1.4573365	1.4943392	1.0801294	0.9843368	0.9843368	0.9843368	0.9843368	0.9843368	0.9843368	0.9843368	0.9843368	0.9843368
Phase-1 RCT-260	0.7554411	0.87872934	0.9564382	1.056499	1.0046878	0.95505667	0.96027154	1.0199337	0.81033297	0.64390707	0.67054335	0.67172325	0.6996551

Table 28

Phase-1 RCT-32	1.2663635	1.0439066	1.3560437	1.1515689	0.8431287	0.733747	0.9176187	1.079542	1.033108	0.9214535	0.8706819	0.9117653	0.8635456	0.9164834
Peroxinome assembly factor 1	1.7359122	1.2570748	1.2556961	1.0622368	1.089789	1.087624	1.052433	1.052433	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
6-oxoquinoline DNA glycosylase	1.0715525	1.0506706	1.0506706	1.0506706	1.1149539	1.0342027	0.7579317	0.7579317	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-42	0.8659267	0.83301284	0.8456989	0.8159973	1.0188105	1.0378032	0.970559	0.970559	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Malin F/G	0.26512564	0.27296227	0.3876114	0.84351315	0.7855884	0.83875394	0.9646417	0.9646417	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-184	0.96277423	0.86500134	0.86500134	0.86500134	0.9140783	1.0207971	1.0207971	1.0207971	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-189	0.47577423	0.4110178	0.46834728	0.8938778	0.8938778	0.8938778	0.8938778	0.8938778	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-191	1.1050906	1.2604584	1.06834728	0.8938778	0.8938778	0.8938778	0.8938778	0.8938778	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Carbonic anhydrase II	0.59797704	0.686626	0.87687485	0.9363691	0.8669578	0.8669578	0.8669578	0.8669578	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-171	1.6527222	1.339217	1.6004844	0.9614739	1.0260359	1.0260359	1.0260359	1.0260359	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-176	2.4692686	2.7024078	1.8905285	0.9614739	1.0260359	1.0260359	1.0260359	1.0260359	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-181	1.0330979	0.9403684	0.9734267	0.9734267	1.0530261	1.0530261	1.0530261	1.0530261	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-207	2.0221515	2.1250358	2.0221515	2.1250358	2.0221515	2.1250358	2.0221515	2.1250358	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-225	2.0354884	1.6942136	0.9526573	1.1653274	1.0630586	1.0630586	1.0630586	1.0630586	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Cytodrome P450 2E1	0.6134111	0.5337926	1.0951645	1.464322	2.263278	1.469147	1.343004	1.343004	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Thionin-1 (Trx1)	1.626215	1.134452	0.640698	0.8640825	0.841342	0.80071276	0.93941867	0.93941867	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Carbonic anhydrase III	1.0434809	1.2330936	0.20386759	0.1468183	0.7632176	0.8679762	1.112431	1.0988894	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-140	0.9525748	0.20386759	1.06894	1.2223126	0.7425955	0.6491855	0.7715557	0.7715557	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Cyclin component C3	1.1365305	1.037746	1.1365305	1.037746	1.1365305	1.037746	1.1365305	1.037746	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Glucokinase	0.9076845	0.22318907	0.733849	1.494249	1.116548	1.5702301	0.7969481	0.7969481	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-173	0.2271803	0.5809324	0.733849	1.494249	1.116548	1.5702301	0.7969481	0.7969481	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
3-methylcrotonyl-CoA carboxylase	1.3759587	0.2215669	0.733849	1.494249	1.116548	1.5702301	0.7969481	0.7969481	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Periodic acid-Schiff reaction	0.4853818	0.6885728	0.8305354	0.71843165	0.71157825	0.7588074	0.737515	0.737515	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-40	0.25976594	0.3005354	0.3005354	0.3005354	0.3005354	0.3005354	0.3005354	0.3005354	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Serine protease	1.4904409	1.9044409	1.4904409	1.9044409	1.4904409	1.9044409	1.4904409	1.9044409	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Cytin G	1.4904409	1.9044409	1.4904409	1.9044409	1.4904409	1.9044409	1.4904409	1.9044409	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Melanoma-associated antigen ME491	0.6103157	0.72795018	0.86061025	0.5038777	0.4676432	0.767422	0.8140239	0.8140239	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Alcohol dehydrogenase 1	0.3938147	0.5186146	0.5186146	0.5186146	0.5186146	0.5186146	0.5186146	0.5186146	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Stem cell factor	0.48332104	0.5389536	1.254062	0.7591247	0.5986694	0.898553	1.263829	1.263829	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Protein kinase C	1.0898191	1.0925637	1.1685536	1.263829	1.263829	1.263829	1.263829	1.263829	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-55	1.3403332	1.532087	1.5005365	1.263829	1.263829	1.263829	1.263829	1.263829	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Urethral conjunctival enzyme (RAD 6 homologue)	1.4229134	1.756481	1.4431288	1.0594631	1.1553923	1.1553923	1.1553923	1.1553923	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
DNA topoisomerase I	1.016866	1.306438	1.1424066	0.849308	0.9629833	0.9629833	0.9629833	0.9629833	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-290	0.8991229	1.5094658	0.7853064	0.84311744	0.9629833	0.9629833	0.9629833	0.9629833	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Superoxide dismutase Mn	9.522318	8.436887	2.6703746	1.061313	1.046814	1.046814	1.046814	1.046814	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Carbamoyl phosphate synthetase I	0.8522339	0.8170693	0.8011008	1.133955	1.4442486	1.4442486	1.4442486	1.4442486	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Dialcylglycerol kinase zeta	1.1242147	1.2633663	1.8288006	0.9278763	0.7007986	0.7007986	0.7007986	0.7007986	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-141	0.94803074	0.9787824	1.038389	0.9787824	1.038389	1.038389	1.038389	1.038389	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Gamma-actin, cytoplasmic	7.1387465	7.2120247	3.7435362	0.8617973	0.8028646	0.8028646	0.8028646	0.8028646	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-141	1.4898988	1.131468	0.949575	1.2637444	1.3683584	1.3683584	1.3683584	1.3683584	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Gamma-actin, cytoplasmic	1.5202338	1.9809568	1.7904348	0.949575	1.2637444	1.3683584	1.3683584	1.3683584	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-13A	1.1840187	1.2628336	1.0602427	0.8611742	0.88364013	0.88364013	0.88364013	0.88364013	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-65	1.0589717	1.0622744	1.2977197	0.8426331	0.8927244	0.8927244	0.8927244	0.8927244	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Glut	0.4320325	0.41457424	0.36011414	1.1647894	1.3021673	1.1629522	1.2268347	1.2268347	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-169	2.8571018	1.028916	1.0601398	1.9909544	1.7620668	1.5162883	1.4744632	1.4744632	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-169	0.562338	0.269116	1.0601398	1.9909544	1.7620668	1.5162883	1.4744632	1.4744632	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-169	0.9396785	0.7656073	0.870678	1.420469	1.3922846	1.5294532	1.7633364	1.7633364	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-169	0.7564947	0.8586181	1.1802805	0.7684677	0.9860972	0.8634561	1.587087	1.587087	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-34	0.31587252	0.3984442	0.3596196	1.2312793	1.2677217	1.1346182	0.7063809	1.1395628	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Interferon related developmental regulator (IFRD1)	1.287171	1.5135175	1.7927483	0.7127633	0.8156634	0.72211615	0.801223	0.84179425	1.0093804	0.8766637	1.5764473	0.8766637	1.1416252	1.0262102
Glucose-regulated protein 78	1.3154748	1.9797163	1.0250951	0.8533164	0.8522685	0.750036	0.4939182	0.9451277	0.72951702	0.47194386	0.4085586	0.6348192	0.5993887	0.8447687
3-beta-hydroxysteroid dehydrogenase (HSD3B1)	0.6202636	0.6841856	0.790359	0.8535436	0.7851814	0.8785084	0.8785084	0.8785084	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Caspase 6	1.063247	0.75148824	0.7619528	0.7619528	0.7619528	0.7619528	0.7619528	0.7619528	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-169	0.45469708	0.5900473	0.5647394	1.0733278	0.8892086	1.009198	1.181015	1.181015	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-169	0.7564947	0.8586181	1.1802805	0.7684677	0.9860972	0.8634561	1.587087	1.587087	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839
Phase-1 RCT-34	0.31587252	0.3984442	0.3596196	1.2312793	1.2677217	1.1346182	0.7063809	1.1395628	0.836937	0.9307015	0.8245078	0.8417449	0.8317439	0.9147839

Table 28

Phase-1 RCT-122	1.1308155	1.1636098	1.092936	1.025792	1.0520791	0.996435	1.0048998	1.1549896	0.6654294	0.7733682	0.7504653	0.703192251	0.7082347
Private kinase, muscle	1.425564	1.419108	1.487262	0.862974	0.7706459	1.1494771	1.1204019	1.2736372	0.912553	0.9671876	0.93399	0.952002	0.971263
Phase-1 RCT-288	0.2591042	0.3356173	0.5039325	0.762327	1.067597	0.6489697	0.6489697	0.6489697	0.6489697	0.6489697	0.6489697	0.6489697	0.6489697
Phase-1 RCT-90	0.68106014	0.5769848	0.6303037	1.0618684	1.0444826	1.0615205	1.0444826	1.0615205	1.0444826	1.0615205	1.0444826	1.0615205	1.0444826
Cytochrome P450 2C39 (alternate clone 2)	0.87884784	0.67720028	1.1492949	0.82265945	0.55798644	0.8313831	0.82265945	0.55798644	0.8313831	0.82265945	0.55798644	0.8313831	0.82265945
Phase-1 RCT-259	1.8639467	2.2460554	0.7026668	1.3166602	0.84251854	1.8811027	1.3166602	0.84251854	1.8811027	1.3166602	0.84251854	1.8811027	1.3166602
Phase-1 RCT-261	0.77807894	1.0410146	0.9632644	1.030474	1.187026	0.9511712	1.030474	1.187026	0.9511712	1.030474	1.187026	0.9511712	1.030474
Methyl-CoA racemase alpha	0.77807894	1.0410146	0.9632644	1.030474	1.187026	0.9511712	1.030474	1.187026	0.9511712	1.030474	1.187026	0.9511712	1.030474
Cytochrome P450 1A2	0.59704933	0.84197855	0.8631156	1.254335	0.645703	0.7387929	0.645703	0.7387929	0.645703	0.7387929	0.645703	0.7387929	0.645703
Monamine oxidase B	1.5655514	1.2400919	0.8753989	0.7755916	0.6426204	1.0567134	0.6426204	1.0567134	0.6426204	1.0567134	0.6426204	1.0567134	0.6426204
Phase-1 RCT-264	0.9477037	0.9634766	0.9402167	0.8067835	0.8615436	0.8615436	0.8067835	0.8615436	0.8067835	0.8615436	0.8067835	0.8615436	0.8067835
Peritoneal proliferator activated receptor gamma	0.9477037	0.9634766	0.9402167	0.8067835	0.8615436	0.8615436	0.8067835	0.8615436	0.8067835	0.8615436	0.8067835	0.8615436	0.8067835
Phase-1 RCT-143	1.2507234	0.9947316	1.0246515	1.3187885	1.1610865	1.1610865	1.3187885	1.1610865	1.3187885	1.1610865	1.3187885	1.1610865	1.3187885
Phase-1 RCT-281	0.414977	0.5429761	0.8540894	1.1007961	0.425031	1.2423332	0.425031	1.2423332	0.425031	1.2423332	0.425031	1.2423332	0.425031
Phase-1 RCT-117	0.5854065	0.7975663	0.8357215	0.8788197	0.8460375	0.969842	0.8460375	0.969842	0.8460375	0.969842	0.8460375	0.969842	0.8460375
Glutathione S-transferase theta-1	0.69382636	0.73775367	0.828826	1.0261432	0.9366244	0.8748537	0.9366244	0.8748537	0.9366244	0.8748537	0.9366244	0.8748537	0.9366244
Phase-1 RCT-91	0.4372834	0.4875767	0.7171363	0.93764205	0.9357116	1.1800427	0.9357116	1.1800427	0.9357116	1.1800427	0.9357116	1.1800427	0.9357116
Phase-1 RCT-148	0.70470625	1.0382148	0.8979104	0.8802084	0.9240686	0.93704736	0.9240686	0.93704736	0.9240686	0.93704736	0.9240686	0.93704736	0.9240686
Actin receptor type II	1.2520882	1.0382148	0.8979104	0.8802084	0.9240686	0.93704736	0.9240686	0.93704736	0.9240686	0.93704736	0.9240686	0.93704736	0.9240686
Glycine methyltransferase	0.44981107	0.558989	0.7845411	0.8148013	0.70459763	1.233456	0.70459763	1.233456	0.70459763	1.233456	0.70459763	1.233456	0.70459763
Phase-1 RCT-281	0.7543388	0.70520983	0.5835907	0.85811235	0.92322323	0.72596005	0.92322323	0.72596005	0.92322323	0.72596005	0.92322323	0.72596005	0.92322323
Ciliary neurotrophic factor	1.1502835	1.087129	1.163276	0.9897536	0.988767	0.985111	0.9897536	0.988767	0.985111	0.9897536	0.988767	0.985111	0.9897536
Gap junction membrane channel protein beta 1 (Gp1)	0.4988807	0.29584505	0.32212257	1.273461	1.2031487	1.0601085	1.273461	1.2031487	1.0601085	1.273461	1.2031487	1.0601085	1.273461
Phase-1 RCT-86	1.1945838	1.0775385	1.0442026	1.258453	1.0715451	1.0333442	1.0715451	1.0333442	1.0715451	1.0333442	1.0715451	1.0333442	1.0715451
Phase-1 RCT-287	0.721317	0.7420958	0.87714535	0.7684604	0.9359991	0.8276341	0.7684604	0.9359991	0.8276341	0.7684604	0.9359991	0.8276341	0.7684604
Retinol-binding protein (RBP)	0.46426568	0.563044	0.800343	0.6245376	0.8848462	0.856166	0.6245376	0.8848462	0.856166	0.6245376	0.8848462	0.856166	0.6245376
Very-long-chain acyl-CoA synthetase	0.81044558	0.7456922	0.91457097	0.6064915	0.83130295	0.8573594	0.6064915	0.83130295	0.8573594	0.6064915	0.83130295	0.8573594	0.6064915
Synthetase	1.0276684	0.9220158	0.86631477	0.9468894	1.1035878	0.970146	0.9468894	1.1035878	0.970146	0.9468894	1.1035878	0.970146	0.9468894
Phase-1 RCT-145	0.89704394	0.86631477	0.9468894	1.1035878	0.970146	0.9468894	1.1035878	0.970146	0.9468894	1.1035878	0.970146	0.9468894	1.1035878
Adh	2.1252637	2.1723237	1.6937224	1.0624786	1.127466	0.9253208	1.0624786	1.127466	0.9253208	1.0624786	1.127466	0.9253208	1.0624786
Phase-1 RCT-145	0.79872334	0.86611034	1.0368736	1.0151545	1.127466	0.9253208	1.0368736	1.0151545	1.127466	0.9253208	1.0368736	1.0151545	1.127466
Phase-1 RCT-59	0.5452321	0.53864914	0.6521261	0.8234304	0.90656265	0.87347134	0.8234304	0.90656265	0.87347134	0.8234304	0.90656265	0.87347134	0.8234304
Sarcoplasmic reticulum calcium ATPase	1.1523994	1.4426387	1.2798468	0.8404832	0.8669137	0.8649171	0.8404832	0.8669137	0.8649171	0.8404832	0.8669137	0.8649171	0.8404832
Alpha-2-macroglobulin, sequence 2	0.1839075	2.523382	2.715508	0.8809472	0.8669137	0.8649171	0.8809472	0.8669137	0.8649171	0.8809472	0.8669137	0.8649171	0.8809472
Phase-1 RCT-204	0.8502711	0.0403843	0.98623437	0.9371555	0.91574204	1.0076454	0.9371555	0.91574204	1.0076454	0.9371555	0.91574204	1.0076454	0.9371555
Vascular endothelial growth factor	1.0194953	0.8317395	0.8090633	1.3544805	1.2860097	1.074715	1.3544805	1.2860097	1.074715	1.3544805	1.2860097	1.074715	1.3544805
NADP-dependent isocitrate dehydrogenase, cytosolic	0.22653377	0.2204927	0.4220584	0.8241254	1.0712388	0.9659268	0.8241254	1.0712388	0.9659268	0.8241254	1.0712388	0.9659268	0.8241254
DNA binding protein inhibitor B2	0.80597365	0.9842419	1.1440216	1.129503	1.0622554	1.0435909	1.129503	1.0622554	1.0435909	1.129503	1.0622554	1.0435909	1.129503
Glutathione S-transferase Ya	0.36311833	0.2454854	0.3123126	0.70709	1.391035	1.2602386	0.70709	1.391035	1.2602386	0.70709	1.391035	1.2602386	0.70709
Epoxide hydrolase	1.3871528	0.8976402	0.8673453	0.594593	2.1764839	1.4394163	0.594593	2.1764839	1.4394163	0.594593	2.1764839	1.4394163	0.594593
Insulin-like growth factor I	0.7593347	0.9146934	0.7774988	1.0574728	1.052128	0.5779599	1.0574728	1.052128	0.5779599	1.0574728	1.052128	0.5779599	1.0574728
Proteinase 1	2.246754	2.0233326	1.937981	1.2483485	1.2483485	0.8243485	1.2483485	1.2483485	0.8243485	1.2483485	1.2483485	0.8243485	1.2483485
Phase-1 RCT-136	0.4837547	0.5928881	0.64294773	0.9989352	1.0404873	0.8387424	0.64294773	0.9989352	1.0404873	0.8387424	0.64294773	0.9989352	1.0404873
Phase-1 RCT-137	0.5818089	0.842127	0.770084	0.8387424	0.8387424	0.8387424	0.8387424	0.8387424	0.8387424	0.8387424	0.8387424	0.8387424	0.8387424
Phase-1 RCT-138	0.67271286	0.72875625	0.707145	0.9373584	0.9373584	0.9373584	0.9373584	0.9373584	0.9373584	0.9373584	0.9373584	0.9373584	0.9373584
Hepatic lipase	0.7047539	0.7653204	0.71763843	1.0121884	0.9159864	1.0724159	0.9159864	1.0724159	0.9159864	1.0724159	0.9159864	1.0724159	0.9159864
Phase-1 RCT-164	0.9278865	0.7889205	0.808474	0.9165927	1.0523678	1.07314	0.9165927	1.0523678	1.07314	0.9165927	1.0523678	1.07314	0.9165927
Acyl-CoA dehydrogenase, medium chain	0.79957874	0.7934188	0.83210176	0.73627654	0.883712	0.9154336	0.73627654	0.883712	0.9154336	0.73627654	0.883712	0.9154336	0.73627654
Glutathione S-transferase Y02 subunit	0.3045239	0.40643677	0.5249075	0.8591985	1.1525655	1.1376923	0.8591985	1.1525655	1.1376923	0.8591985	1.1525655	1.1376923	0.8591985
Carboxyl reductase	0.92416507	1.0486173	1.198419	1.304087	1.234084	1.1376923	1.0486173	1.198419	1.304087	1.234084	1.1376923	1.0486173	1.198419
Phase-1 RCT-166	0.70098703	0.7687908	1.0679548	0.9577942	1.176823	0.9733607	0.9577942	1.176823	0.9733607	0.9577942	1.176823	0.9733607	0.9577942
Apolipoprotein E	0.8851826	0.8662528	0.9382716	1.8518234	1.3962242	1.4303906	0.8662528	1.3962242	1.4303906	0.8662528	1.3962242	1.4303906	0.8662528
UDP-glucuronosyltransferase	0.41932514	0.36146396	0.789181	0.860472	0.8021087	1.2684467	0.860472	0.8021087	1.2684467	0.860472	0.8021087	1.2684467	0.860472
Glutathione S-transferase P1	0.74891387	0.90769376	0.778952	1.187628	1.2618683	1.23038	0.90769376	1.187628	1.2618683	1.23038	0.90769376	1.187628	1.2618683
Disulfide isomerase related protein (ERp72)	0.6290925	1.1224369	0.63963157	0.910105915	0.778954	0.86353744	0.63963157	0.910105915	0.778954	0.86353744	0.63963157	0.910105915	0.778954
Ribosomal protein L13	0.5584874	0.7036254	0.93710083	0.84066105	1.0074877	1.0074877	0.84066105	1.0074877	1.0074877	0.84066105	1.0074877	1.0074877	0.84066105
Candicidin	1.7592546	1.8117203	1.392713	0.52711457	0.5035136	0.6233739	0.52711457	0.5035136	0.6233739	0.52711457	0.5035136	0.6233739	0.52711457
Inter-alpha-inhibitor H4 heavy chain (IbH4)	2.291062	2.3966518	1.4282823	0.8809545	0.81076814	0.82861763	1.4282823	0.8809545	0.81076814	0.82861763	1.4282823	0.8809545	0.81076814

Table 28

Phase-1 RCT-3	1,0184433	1,0518341	1,0654555	1,1186602	1,0436252	1,0387962	1,0273917	1,0200948	1,0724574	0,65928104	0,6887421	0,681152939	0,70804083	0,8018846
Furin beta (F-ub)	0,8277723	1,2724269	1,388874	1,0120357	0,9593393	1,0873529	1,1813033	0,9472866	0,8575428	1,7459949	1,3263263	1,872284	1,2724094	1,1350562
3-hydroxyisovalerate dehydrogenase	0,5389554	0,8191268	0,7326176	0,7024103	0,9018749	0,8562345	0,8482165	0,8190172	1,615261	1,3164902	1,2244747	1,07482	1,1381059	1,079665
Carbonic anhydrase III, sequence 2	0,5080026	0,59515216	0,7073127	0,81937474	0,75200933	0,9138564	0,9295966	0,87706103	1,8400398	1,8613223	2,458617	1,6302828	1,0759655	1,0759655
Phase-1 RCT-10	0,49418176	0,6126006	0,62376313	0,64067368	0,64523523	0,8411121	1,0014356	0,7976173	1,2522689	1,4278813	1,0317126	1,309003	1,3879051	1,1333584
Alpha-2-microglobulin	0,28952586	0,6211163	0,8207351	0,9423735	0,9217358	0,9303966	0,9036812	1,0110206	1,0872569	1,1215104	0,91385737	0,83403655	0,7685013	0,841507
Dynamin-1 (D100)	0,71102625	0,72075087	0,8627931	0,8643211	0,9805689	1,0359606	0,8476323	0,8784161	0,81489414	0,9408886	0,89584955	0,8598354	0,8918373	0,8918373
Phase-1 RCT-252	0,98570857	0,8289888	0,76101756	0,8667126	1,0493984	1,0359606	0,8476323	0,8784161	0,81489414	0,9408886	0,89584955	0,8598354	0,8918373	0,8918373
Uryl oxidase	0,2855519	1,1651257	1,6605159	0,94486278	0,7373394	1,3071404	0,92148945	0,8713789	0,80722259	2,82512778	1,490778	1,6297409	2,244168	1,240035
Phase-1 RCT-29	1,468473	1,764693	1,2303562	1,0986325	1,047638	1,0074042	1,3217841	1,06505	1,188395	0,82615874	0,7862048	0,8554118	0,5335083	0,871524
Phase-1 RCT-42	1,336847	1,6038652	0,8910111	0,78016886	1,043816	0,9610142	1,1756522	1,0749447	0,8167633	1,1839378	2,79786	0,9411088	1,2010261	1,2562369
Phase-1 RCT-26	1,2618358	1,2642568	1,10331	0,90739404	0,9553004	1,0114694	1,0447789	1,0004472	0,10107633	0,10107633	0,2731873	0,7257714	0,69188803	0,9502471
Cytochrome P450 2C11	2,4704466	1,9076546	1,4569169	1,0087625	0,84455705	1,0711663	0,9503735	0,5943745	0,8158655	0,6299078	0,73781073	1,4870919	1,1856569	1,1856569
Phase-1 RCT-202	0,5051588	0,7278986	1,1768811	0,7149809	0,855961	0,85057485	0,9433334	0,9146333	0,8521529	1,513196	1,8358388	1,5952733	1,4870919	1,1856569
Complement factor I (CFI)	1,4294137	1,4133397	1,4084122	0,9420029	1,022018	1,081066	0,943554	0,8468883	0,9852248	0,9453167	0,85330935	0,7725962	0,7009243	0,8968806
Proliferating cell nuclear antigen gene	1,0077633	0,81865346	0,8512733	1,5028864	1,328861	1,4855398	0,740378	0,8525265	0,738453	0,8537523	0,7880033	0,76275456	0,7147801	0,5488394
Activating transcription factor 3	1,3414068	1,2758701	1,1721158	1,0877426	1,0256263	0,86721035	0,740378	0,8525265	0,738453	0,8537523	0,7880033	0,76275456	0,7147801	0,5488394
Focal adhesion kinase (p125FAK)	0,528327	0,5905926	0,7509657	0,9494264	1,116709	1,169125	0,7503054	0,8116119	0,7709159	1,012759	1,0945505	1,192117	1,1585194	1,0736589
Phase-1 RCT-289	1,1215028	1,090589	1,2498517	0,9871378	0,9138825	1,0122176	1,4704822	1,2050377	1,3309001	0,958308	0,7442782	0,7357892	0,8130061	0,83569133
Phase-1 RCT-253	0,6973328	0,58315735	0,8605114	0,8543786	1,045052	1,033861	0,935323	0,93701285	0,8333966	1,2842793	1,8240598	1,5485758	1,4097923	1,6682738
Iron-responsive element-binding protein	1,504269	0,88223	0,8514684	1,8590981	1,8042565	1,449923	1,349078	1,1681986	1,389407	0,8883533	1,4078712	1,185018	1,954252	1,3001215
MHC class I antigen RT1A10 alpha-chain	0,6038077	0,5276628	1,2099162	0,742377	0,5412163	1,0138146	0,6422136	0,8763011	0,55653933	2,3734446	1,2864771	1,1809824	1,3232881	1,2285661
Avi sulfotransferase	0,7378557	0,726193	0,7775084	0,3533958	0,89241906	0,98378416	0,92321028	0,93005747	0,9799332	0,771871	1,0407368	1,025883	0,8714356	0,870087
Phase-1 RCT-171	0,63307003	0,82111305	0,77828216	0,7868216	0,84522706	0,6916546	0,863882	0,6935655	0,8294996	0,6407857	0,7512507	0,8629757	0,6592625	0,8329174
Phase-1 RCT-43	0,25883542	0,29773548	0,42871825	0,3381478	0,81166366	1,0459535	0,5880312	0,866144	0,6855335	0,89342913	1,1652378	1,1633575	1,0940489	1,1839353
Phase-1 RCT-270	1,0404012	1,2094395	1,0257403	0,8030518	0,8934542	0,8169802	1,1092607	1,0585774	1,0107762	1,788168	1,7748459	1,6199031	1,3877275	1,1784985
Colony-stimulating factor-1	0,8018595	0,6984397	0,82318856	1,0139564	0,9768881	0,9640716	0,7199556	0,8758886	0,8120479	0,871168	0,9435722	1,0228248	0,9813706	0,8894089
N-cadherin	0,5347188	0,5927355	0,6503954	0,7604068	0,9303335	0,933455	0,80120184	0,8065017	0,26904156	1,0475864	0,79279537	0,8869485	1,0074229	0,976235
Phase-1 RCT-62	0,9436966	1,0162158	1,0329758	1,0507673	1,0905548	1,1250201	0,8405288	0,953915	0,86050456	0,8893365	1,5072782	1,5072782	1,3309001	1,3309001
Phase-1 RCT-22	0,9436966	1,0162158	1,0329758	1,0507673	1,0905548	1,1250201	0,8405288	0,953915	0,86050456	0,8893365	1,5072782	1,5072782	1,3309001	1,3309001
AT-3	0,9436966	1,0162158	1,0329758	1,0507673	1,0905548	1,1250201	0,8405288	0,953915	0,86050456	0,8893365	1,5072782	1,5072782	1,3309001	1,3309001
Phase-1 RCT-18	0,9436966	1,0162158	1,0329758	1,0507673	1,0905548	1,1250201	0,8405288	0,953915	0,86050456	0,8893365	1,5072782	1,5072782	1,3309001	1,3309001
Phase-1 RCT-123	0,9436966	1,0162158	1,0329758	1,0507673	1,0905548	1,1250201	0,8405288	0,953915	0,86050456	0,8893365	1,5072782	1,5072782	1,3309001	1,3309001
Phase-1 RCT-65	0,9436966	1,0162158	1,0329758	1,0507673	1,0905548	1,1250201	0,8405288	0,953915	0,86050456	0,8893365	1,5072782	1,5072782	1,3309001	1,3309001
Equilibrative nucleoside/nucleosine-sensitive nucleoside transporter	0,3808276	0,5262183	0,52223164	0,7942725	0,8408659	0,71986975	0,8759832	0,8875988	0,8416281	0,5303093	0,8753246	0,87187207	0,7675424	0,7675424
Glucose transporter 2	0,87624544	0,8728005	1,473532	0,7476115	1,0256311	1,2018362	0,7519841	0,9233873	0,83488784	1,1003	1,1663716	1,259359	1,07684	0,9894177
Multidrug resistant protein-2	0,59546843	0,6076378	0,7098141	0,82211506	1,1766303	0,9174485	1,2004097	1,1854867	1,6980616	1,214924	1,3723247	1,135817	1,03652	1,7228174
Multidrug resistant protein-1	0,60555106	0,59706846	0,69228363	0,85211927	1,4027859	0,8814187	1,4447422	1,2871479	1,7363156	1,2287612	1,5078531	1,1705312	1,1718171	1,9765933
Phosphatidylethanolamine-binding protein	1,0184266	0,7650965	0,7349726	1,1930229	1,1894058	1,1349349	1,2407485	1,1601112	1,1948817	1,4312906	1,6005602	1,5768914	1,4078956	1,2941403
Phase-1 RCT-180	1,8241313	1,5506789	1,3921571	1,3518351	1,4562566	1,2881371	0,9378289	1,0632817	0,7981786	1,6528405	1,1980594	1,730433	1,3909882	1,3100695
Insulin beta-4	1,4435644	1,1425481	1,1392117	1,6875612	1,1652858	1,1891097	1,1951041	1,1183393	1,2043513	0,91482278	1,265923	1,213507	1,1855871	1,5873153
NAADH cytochrome P450 oxidoreductase	1,1213237	0,87752545	0,97285336	1,606784	1,7985893	2,0279326	1,5581935	1,1363585	1,8091023	0,3086445	3,285765	1,8930866	1,537984	1,704072
Wdr1	1,6902044	1,3274972	1,6123046	1,331713	1,3105865	1,3033761	2,170449	1,2709698	2,2874062	0,93333045	0,78145443	0,81009877	1,0735741	1,0735741
Endogenous retroviral sequence, 5' and 3' LTR	1,138803	1,7608973	1,0710024	1,1871857	0,7653437	0,80488605	0,92216355	0,96808344	1,0658994	0,77738124	1,4308145	1,1985894	0,82535577	0,7521349
Phase-1 RCT-53	0,8285102	0,5893365	0,8515085	0,9745849	0,9001036	0,8768245	1,13066	0,9700166	1,087189	1,0381868	1,0479908	1,075352	1,059497	1,0701118
Phase-1 RCT-54	1,0652574	1,101874	1,2245046	1,1913763	1,0314059	0,9452327	0,7819647	0,84455016	0,6507464	0,8875683	0,8181613	0,7837215	0,8642544	0,8688043
Osteopontin	1,0512712	1,1643302	1,2367349	0,76885474	0,8087802	0,8280479	0,7852093	0,8592873	0,9304759	0,8951383	0,8912389	0,89813745	0,865044	0,8688043
Organic anion transporting polypeptide 1	0,8916078	0,7413065	0,6804466	0,69233716	0,900628	0,812032	0,9163627	0,92714168	0,87078604	0,9719005	1,5768786	1,5513865	1,4482786	1,0734624
Phase-1 RCT-241	4,988278	5,2340517	2,0409882	1,2517213	1,2384713	1,0857302	1,0139757	1,3287018	1,2578334	1,2824337	0,7623311	0,5331813	0,7270258	0,7270258
Tissue factor pathway inhibitor	1,776147	1,6473212	1,4459003	1,1626036	1,0351211	0,96892556	1,0714221	1,0304844	1,195742	0,7907785	0,7596306	0,7009274	0,8543542	0,7902061
Cyclin-dependent kinase 4 inhibitor P27kip1 (atenolol)	0,8300907	0,79751307	0,8365988	1,1878917	0,97654057	0,80278606	1,4748484	1,0889601	1,1888827	0,7837502	0,73372513	0,70567954	0,70238	0,8249923
Proteinase D	1,0277334	1,0462868	1,042865	1,1117148	1,0290259	1,087587	1,0276289	1,1899432	0,7589709	0,68237285	0,670013	0,683249	0,7841626	0,7841626
Phase-1 RCT-139	1,948162	1,6907018	1,181488	1,0902691	1,0001618	0,9457036	0,90828697	1,0321048	1	0,78287435	0,8188803	1,1311219	1,2560127	1,2560127
Phase-1 RCT-258	1,3078245	1,5029466	1,050924	1,082581	0,8919205	0,942238	0,457182	1,0270324	0,8623161	1,205159	0,8852688	1,0174566	0,92544883	0,92544883
Phase-1 RCT-113	1,87707076	1,8978771	1,5388018	0,8328981	0,94787893	0,97517407	0,10543564	0,8677714	1,1872585	1,8727585	1,2809746	1,2670605	1,2891271	1,4661425
Adenine nucleotide translocator 1	0,98974684	1,004484	1,037225	1,0318935	1,1725559	0,7413685	0,7413685	0,9136149	0,7833284	1,1955611	0,97231615	1,1873308	1,0500072	1,0500072
Alpha-1 acid glycoprotein	10,211426	14,559551	12,09506	0,44807184	0,4367361	0,841437	0,74271256	1,077761	0,9282365	1,038936	1,4857459	2,4075847	1,2358061	1,2358061
MHC class II antigen RT1-B1 beta-chain														

Organic cation transporter 3	1.3537432	1.7077032	1.9552718	0.8235079	0.63378615	0.8063262	0.8534738	1.074377	0.93894714	1.0422381	0.7218598	0.77056118	1.204345	0.9408503
Hypoxia-inducible factor 1 alpha	1.3204832	1.1450992	0.859522	1.6987307	1.0091324	1.0644403	0.78718	1.0132828	0.9377688	0.83673576	0.8523498	0.87819815	0.9770271	0.94055907
Phase-1 RCT-43	1.1787277	1.0544515	0.8976506	1.984121	1.0540243	0.84122155	1.0577789	0.938823	0.9746557	1.1183436	0.8981513	1.018139	1.1303705	0.9675806
Phase-1 RCT-45	1.1487896	0.9742993	1.0638173	1.3530235	1.0473185	0.9488343	0.7611881	0.9171722	0.7901805	0.8084117	0.7508268	0.82782507	0.8756584	0.7850805
Malate dehydrogenase, cytosolic	1.7515208	0.8556724	1.2876025	0.8536706	0.8101537	1.0236982	0.74214853	0.98339045	0.6873183	3.3780445	1.7619778	1.7267761	2.0637207	2.0578318
VL30 element	1.4296532	2.1761682	1.104087	1.2510133	1.0447388	0.88555415	1.2104533	0.8594696	0.90724387	0.784723	1.5301894	1.2656206	0.5288735	0.41182273
Phase-1 RCT-169	0.5131606	0.5518853	0.88379526	1.075168	1.010407	1.1152421	0.94058413	0.96597	0.855421	1.1185411	0.95253945	1.124505	1.1855047	0.80942756
Alpha-fetoprotein	0.7244933	0.7025027	0.83123344	0.9076809	0.9555848	0.8118888	1.1324915	0.9582147	0.85039943	2.1863202	0.8578944	0.7274048	0.88047184	0.9341884
Calgranulin B	0.6578509	0.7287717	0.87152064	0.8037831	0.7044839	0.91342795	1.035139	0.982041	1.0389432	0.7294724	0.732064	0.7407236	0.7676025	0.8057347
Tissue plasminogen activator	0.92463907	0.91001326	0.9556101	0.894045	0.9101535	0.8540027	1.052555	1.002041	1.0389432	0.7294724	0.732064	0.7407236	0.7676025	0.8057347
Phase-1 RCT-195	0.96231836	1.0077478	1.0865918	0.88459	0.8266539	0.9504908	1.0135332	1.0027387	1.0587858	1.2558378	1.1928694	1.1258952	1.1611594	1.213078
Phase-1 RCT-284	0.70659626	0.734916	0.63287325	0.6870081	0.9852486	0.49883243	1.0498312	0.9434023	0.95556074	0.89405487	0.8578944	0.7274048	0.88047184	0.9341884
Alpha-1 microglobulin precursor (Amp)	1.0541323	0.9682208	1.0315374	1.124735	1.0769688	1.2163857	1.1471474	0.9755449	1.1297011	0.83338206	0.7983624	0.89476593	0.700201	0.88142915
Phase-1 RCT-151	1.8887034	1.247216	1.6822016	0.9859635	1.128682	0.9408464	0.92817575	1.117572	0.98314085	1.4828448	1.2760557	1.3585732	1.27823	1.154464
Phase-1 RCT-221	1.235396	1.189529	1.143745	1.2530653	1.0643113	1.1254892	1.0670931	0.93652335	1.0661761	1.3362532	1.2492768	1.0550431	1.3420081	1.2377586
Phase-1 RCT-235	1.0301074	1.054243	0.8742698	0.9200947	0.94186916	0.8463577	1.0670931	0.93652335	1.0661761	1.3362532	1.2492768	1.0550431	1.3420081	1.2377586
Organic anion transporter 3	0.88876875	0.98915003	0.92765795	0.97165795	0.9111823	0.93793476	1.062884	0.9044794	1.0251782	1.3977625	1.1762241	1.0237588	1.2880515	1.2377586
Matrix metalloproteinase-1	0.6003731	0.8113117	0.7796079	0.73137224	0.81877524	1.0843134	0.96356314	1.042436	1.008483	0.7058842	0.91549325	0.88209833	0.85965383	0.9493728
Urinary protein 2 precursor	0.8762247	0.9228188	0.7796079	0.73137224	0.81877524	1.0843134	0.96356314	1.042436	1.008483	0.7058842	0.91549325	0.88209833	0.85965383	0.9493728
Phase-1 RCT-212	0.3760987	0.75634384	0.734916	0.55183721	0.7308858	0.6061781	0.938529	0.7880768	0.8510783	1.2891613	0.88178435	1.2181897	0.8720447	0.6202767
	1.0145876	1.0426927	1.1432428	1.0185192	0.9425325	0.8530802	0.8105843	0.88303553	0.6246544	0.9570021	1.0007769	0.97699183	0.9145648	0.94680044
(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 18).														
(2) Compound and dose abbreviations as in Table 1.														
(3) Individual animal number														
(4) Liver inflammation classification for compound-dose group at 72 h: yes=next, necrosis observed; yes=both, necrosis with inflammation observed; no, no histopathology observed														
(5) Predictive gene (as in Table 18 and as included in Table 26)														

Table 28

Table 28. Expression Data for 6 Hour Timepoint (1)

[illegible]

Table 28

Phase-1 RCT-72	0.66592368	1.9195008	1.605539	1.562783	1.602187	1.7512626	2.1329363	2.0971465	2.139062	1.478483	1.080506	1.683314	1.1816725	1.4818203
Private kinase, muscle	0.620108	1.871353	1.79406	1.924173	1.730757	1.747322	3.4254937	3.2862354	2.1738389	1.1352718	1.0518709	1.158778	1.2894685	2.5847917
Phase-1 RCT-288	1.0432113	0.8703787	0.8293185	0.6931965	0.7639127	0.76854193	1.13212045	0.45602146	0.45602146	0.5588374	0.41157507	1.2113482	0.6854907	0.6854907
Phase-1 RCT-50	0.69915678	0.9449811	1.2639892	1.318112	1.1516389	1.4022013	1.1322969	0.10710588	0.10710588	0.9739763	0.688189	0.4841035	3.9902635	3.9902635
Cytochrome P450 2C39 (alternate clone 2)	1.4284702	0.4277653	0.3277275	0.878811	0.63374603	0.4489547	0.5215249	0.67172986	0.67172986	0.93903123	0.688591	0.108654	1.2211319	1.3186339
Phase-1 RCT-289	1.469865	0.8394002	1.0051338	0.5277275	0.878811	0.63374603	0.4489547	0.5215249	0.67172986	0.93903123	0.688591	0.108654	1.2211319	1.3186339
Phase-1 RCT-281	1.0245543	0.8523333	0.8221551	0.82023275	1.018219	0.8454854	0.7549137	0.7081691	0.7081691	0.8007508	1.2044561	0.92772245	3.0676053	3.0676053
Methylglucosyl CoA transferase alpha	0.98137005	0.40749645	0.63825005	0.6526783	0.8560369	0.8560369	0.8560369	0.8560369	0.8560369	0.8560369	0.8560369	0.8560369	0.8560369	0.8560369
Cytochrome P450 1A2	0.9654725	0.6346993	1.0841516	0.5242209	0.1362045	0.1362045	0.1362045	0.1362045	0.1362045	0.1362045	0.1362045	0.1362045	0.1362045	0.1362045
Phase-1 RCT-287	0.7339773	0.6346993	1.0841516	0.5242209	0.1362045	0.1362045	0.1362045	0.1362045	0.1362045	0.1362045	0.1362045	0.1362045	0.1362045	0.1362045
Monomeric oxidase B	1.1973089	0.504228	0.62358018	0.6971674	0.3426104	0.3426104	0.3426104	0.3426104	0.3426104	0.3426104	0.3426104	0.3426104	0.3426104	0.3426104
Phase-1 RCT-284	0.4834051	0.9225447	0.5106075	0.8877542	0.73939344	0.73939344	0.73939344	0.73939344	0.73939344	0.73939344	0.73939344	0.73939344	0.73939344	0.73939344
Peridomine proliferator activated receptor gamma	1.1814138	0.78841317	0.6346993	0.5591374	0.82811453	0.82811453	0.82811453	0.82811453	0.82811453	0.82811453	0.82811453	0.82811453	0.82811453	0.82811453
Phase-1 RCT-143	1.9705374	0.317508	0.5197813	0.92484313	0.8187723	0.8187723	0.8187723	0.8187723	0.8187723	0.8187723	0.8187723	0.8187723	0.8187723	0.8187723
Phase-1 RCT-117	0.92305714	1.0276844	0.6903432	0.1970015	0.9530988	0.9530988	0.9530988	0.9530988	0.9530988	0.9530988	0.9530988	0.9530988	0.9530988	0.9530988
Glutathione S-transferase theta-1	0.3523482	0.7935093	0.8192383	0.1970015	0.9530988	0.9530988	0.9530988	0.9530988	0.9530988	0.9530988	0.9530988	0.9530988	0.9530988	0.9530988
Phase-1 RCT-31	1.0972021	0.9442165	1.031398	0.965512	0.914521	0.8442006	0.1058972	0.85056534	0.85056534	0.85056534	0.85056534	0.85056534	0.85056534	0.85056534
Phase-1 RCT-148	1.3210874	0.9275895	1.550977	0.834108	0.8202687	0.78903694	0.9093334	0.70084624	0.6387631	0.8895345	0.8812375	0.89347315	1.0525989	0.9897674
Phase-1 RCT-142	1.428773	0.8441853	0.7144937	0.834108	0.8202687	0.78903694	0.9093334	0.70084624	0.6387631	0.8895345	0.8812375	0.89347315	1.0525989	0.9897674
Adrenomedullin type II	0.7297942	1.0337821	1.0963269	1.0256433	0.9841683	0.98468304	0.980334	1.0754178	1.111014	1.130384	1.0822145	1.2531337	1.4681964	1.4681964
Glucocorticoid synthase	2.4114377	0.4788047	0.49802672	0.6630936	0.7854987	0.8751387	0.8470739	0.56339014	0.56339014	0.56339014	0.56339014	0.56339014	0.56339014	0.56339014
Glucocorticoid synthase	1.198841	1.4400989	1.2093737	0.9782968	0.9782968	0.9782968	0.9782968	0.9782968	0.9782968	0.9782968	0.9782968	0.9782968	0.9782968	0.9782968
Phase-1 RCT-281	0.7456533	1.119535	1.2161535	1.1832972	0.9036412	0.93297518	1.1571782	1.2626274	1.1986036	0.9328774	0.8946134	0.9869591	0.3765423	1.0883338
Ciliary neurotrophic factor	1.2795113	0.9282848	0.8944616	0.9779465	0.87834656	0.9167788	0.8897226	0.74404514	0.6571991	1.2268813	1.0848995	0.47155216	0.39919215	0.39919215
Gap junction membrane channel protein beta 1 (Gp1)	0.71156925	1.0565311	0.9875785	1.2413781	1.1626857	1.2506132	1.2598133	1.5357841	1.3011699	1.1103556	1.0659718	0.8277053	0.82631055	0.82631055
Phase-1 RCT-96	1.3577448	0.4194513	0.7038384	0.88848457	0.9417581	0.9288098	0.6728452	0.151438	0.68368466	0.6437347	0.4458045	0.6158639	0.9858819	0.7602296
Phase-1 RCT-287	1.0820093	0.747832	0.6230523	0.6881125	0.9008441	0.7369931	0.6251537	0.7106136	0.6349873	0.8421897	0.8811715	0.8788232	0.8439978	1.0779119
Retinol-binding protein (RBP)	1.8520093	0.8435108	0.6878947	0.6805128	0.8841715	0.79435918	0.6535107	0.73073624	0.600408	0.8788232	0.7103495	0.87265725	0.8212074	0.7510522
Very long-chain acyl-CoA synthetase	1.0501093	1.8435161	0.90702397	1.2751017	1.396045	1.2684816	2.3770058	2.0589829	1.1205978	0.785427	1.2054821	1.0334755	1.0898189	1.0898189
Symplexin	0.8063415	1.124181	1.033636	0.108823	1.035157	0.9934017	1.0517131	1.1291132	0.3819839	0.91719455	0.9369482	0.5576588	0.9243795	0.9377898
Statmin	1.4093332	1.2637322	0.860498	0.4562881	0.2705721	1.108444	1.4387472	1.5380406	1.779584	1.571778	1.398319	1.2824025	1.5739777	1.7311125
Phase-1 RCT-145	1.0986191	1.011021	0.8754307	0.8356333	0.810534	0.92687196	0.6221805	0.7004996	0.6404934	0.6340638	0.5624727	0.18024737	0.6350865	0.6350865
Adin	1.0571624	0.64431	0.82651035	0.763338	0.8455435	0.8455435	0.8455435	0.8455435	0.8455435	0.8455435	0.8455435	0.8455435	0.8455435	0.8455435
Phase-1 RCT-89	0.7318923	0.679492	0.910888	1.2810341	1.4973061	1.3692182	1.1542474	1.2307341	1.3435622	0.4787697	0.8581663	0.7102868	0.6891926	1.0413314
Sarcosine oxidase calcium ATPase	1.6258769	1.7354616	1.7171525	1.062175	1.2175893	1.086586	1.0451134	1.034116	0.9554687	0.9071213	0.70532227	0.7340056	1.3845468	1.7211853
Alpha-2-macroglobulin, sequence 2	0.9093255	1.2075608	0.86432433	0.8617287	0.9128091	0.8211832	0.7521097	0.7521097	0.7521097	0.7521097	0.7521097	0.7521097	0.7521097	0.7521097
Phase-1 RCT-204	1.1986527	0.63937867	1.2101904	0.8950536	0.9757828	0.9748777	0.94089535	1.0510687	0.9906874	1.2348481	0.9830063	1.1149285	1.1547466	1.031852
Vascular endothelial growth factor	1.2047809	0.76818695	0.62308085	0.7116993	0.7278209	0.7110777	0.4827577	0.5217453	0.3940006	0.48255026	0.61113775	0.44652387	0.874801	0.34655046
NAO-dependent isocitrate dehydrogenase, cytosolic	0.71156925	1.0565311	0.9875785	1.2413781	1.1626857	1.2506132	1.2598133	1.5357841	1.3011699	1.1103556	1.0659718	0.8277053	0.82631055	0.82631055
DNA binding protein inhibitor ID2	1.010435	1.65888	0.5948372	1.0416393	0.9111464	0.95991047	0.7650025	0.8250387	0.8482248	1.114841	1.1784631	1.1767842	0.5010191	0.8406887
Glutathione S-transferase Ya	1.4814504	1.7735664	0.8030113	0.81971675	0.7083361	0.7383462	0.84700377	0.6800397	0.5107724	0.41830798	0.76207477	0.3934267	0.7642057	0.4861219
Epoxide hydrolase	1.3815439	0.7140976	1.4171038	0.782284	1.094109	1.129784	1.058682	1.1692771	0.78237045	0.556421	0.48863054	0.1828281	0.88326573	0.8465608
Insulin-like growth factor I	0.3793949	0.8534829	0.45918185	0.9474587	0.8353534	0.7302103	0.46760643	0.58074704	0.50479815	0.4902642	0.69482243	0.1730227	1.034564	1.445248
Prostaglandin H synthase	0.95339215	1.169053	1.7329741	1.1549983	0.9382255	0.9424281	1.2717181	1.33128	1.450884	0.9258912	0.8342229	1.431897	0.7086122	0.58931
Phase-1 RCT-136	1.2728292	1.423005	1.2232147	0.88158074	0.9691877	0.9636595	0.7840097	0.8221786	0.8778877	0.9257533	0.9505047	0.974616	0.6609319	0.8225971
Phase-1 RCT-137	1.0146443	0.99679124	0.49000793	0.874168	0.6015746	0.61581833	0.33729786	0.4066504	0.55721635	0.617852	0.563424	1.4551428	1.1607091	1.1607091
Phase-1 RCT-138	1.0772834	1.0311065	0.8814578	0.70141566	0.7161893	0.82847164	1.1446245	1.0017418	0.98812376	0.8891192	1.1385562	0.3078511	0.85415413	0.85415413
Hepatic lipase	0.98661195	0.75995757	0.8874578	0.70141566	0.7161893	0.82847164	1.1446245	1.0017418	0.98812376	0.8891192	1.1385562	0.3078511	0.85415413	0.85415413
Phase-1 RCT-164	0.6550238	0.77404755	0.8851591	0.7161893	0.82847164	1.1446245	1.0017418	0.98812376	0.8891192	1.1385562	0.3078511	0.85415413	0.85415413	0.85415413
Acyl-CoA dehydrogenase, medium chain	1.3470321	0.89739966	1.0090626	0.937928	1.009849	0.9458673	0.7655317	0.51861756	0.67926649	0.6120671	0.9819737	0.3251458	0.8087684	0.78842094
Glutathione S-transferase Yb2 subunit	1.7947053	1.0004194	0.7484	0.7702882	0.93701667	0.9459422	0.8887888	0.90887086	0.90887086	1.2687816	0.8016862	1.584689	1.3896784	0.78842094
Carbonyl reductase	0.684191	1.8501561	1.5742805	1.2265201	1.2492933	1.1481072	1.4725981	1.435402	1.4519048	0.630136	0.80819106	1.3401084	0.8316048	1.065997
Phase-1 RCT-166	1.9863307	0.81857857	0.56562054	0.7645245	1.0011334	0.7389946	0.4747173	0.197554	0.630136	0.80819106	1.3401084	0.8316048	1.065997	1.065997
UDP-glucuronosyltransferase	1.1231924	0.906527	0.5407716	0.7685794	0.8644334	0.7632135	0.6346151	0.6246151	0.6246151	0.6246151	0.6246151	0.6246151	0.6246151	0.6246151
UDP-glucuronosyltransferase	1.4773428	0.711053	0.6027338	0.7626958	0.8404108	0.86216784	0.958904	0.538487	0.9699914	0.9699914	0.9699914	0.9699914	0.9699914	0.9699914
Disulfide isomerase related protein (E-P72)	0.80247914	0.9945534	0.8075617	0.9192332	1.2239572	1.3024888	0.98507015	0.98507015	0.98507015	0.98507015	0.98507015	0.98507015	0.98507015	0.98507015
Glutathione S-transferase P1	1.0713938	0.2555017	0.4241446	1.2539272	1.2239572	1.3024888	0.98507015	0.98507015	0.98507015	0.98507015				

Phase-1 RCT-3	1.076447	1.0939782	0.9582918	0.9247011	0.8945101	0.7434111	0.9559825	0.9022414	0.9560708	0.8942057	1.0390307	1.1520487	1.3274238
Faun beta (Feub)	1.575996	0.4016285	0.267315	0.7255535	0.8339909	0.3603966	0.4551224	0.7205267	0.7205267	0.7205267	0.7205267	0.7205267	1.427682
3-hydroxyisobutyrate dehydrogenase	1.2607093	0.9143076	0.8566018	0.7198987	0.8451905	0.8213481	0.71590674	0.65936974	0.64931464	0.7761877	0.7761877	0.90812445	0.7316372
Carbonic anhydrase III, sequence 2	1.2003984	0.49008128	0.3257018	0.57359757	0.936397	0.8342833	0.4875162	0.50536474	0.73017836	0.44610666	0.47070761	0.9170497	1.5136932
Phase-1 RCT-10	1.4409587	0.7034352	0.31303374	0.72469224	0.6829881	0.4162768	0.4871063	0.5819161	0.8404345	0.30749255	1.1063007	0.98469205	0.5933277
Alpha-2-microglobulin	1.221583	0.9636582	0.8420707	0.39939877	0.6177354	0.5894934	0.3102868	0.5819161	0.8404345	0.30749255	1.1063007	0.98469205	0.5933277
Dynamin-1 (D100)	0.74367865	0.8202073	0.735462	0.87943534	0.9331812	0.9331812	0.9331812	0.9331812	0.9331812	0.9331812	0.9331812	0.9331812	0.9331812
Lysyl oxidase	0.62816724	0.780024	0.97312458	0.13594415	1.35933	1.35933	1.35933	1.35933	1.35933	1.35933	1.35933	1.35933	1.35933
Phase-1 RCT-252	2.2316973	0.65625453	0.59690379	0.19564892	0.8859033	0.8859033	0.8859033	0.8859033	0.8859033	0.8859033	0.8859033	0.8859033	0.8859033
Phase-1 RCT-28	0.98655177	1.300454	1.8504664	1.170088	1.0698712	1.0698712	1.0698712	1.0698712	1.0698712	1.0698712	1.0698712	1.0698712	1.0698712
Phase-1 RCT-278	1.2531011	0.97245338	0.89701606	0.7965056	0.8119833	0.8119833	0.8119833	0.8119833	0.8119833	0.8119833	0.8119833	0.8119833	0.8119833
Phase-1 RCT-25	1.2659973	0.7275683	1.0270705	0.9906852	0.9494841	0.9494841	0.9494841	0.9494841	0.9494841	0.9494841	0.9494841	0.9494841	0.9494841
Cytochrome P450 2C11	0.84703433	0.91670028	1.1296113	0.5128109	0.7778012	0.7778012	0.7778012	0.7778012	0.7778012	0.7778012	0.7778012	0.7778012	0.7778012
Phase-1 RCT-202	1.4661187	0.7108098	0.6546718	0.7267133	0.9951603	0.9951603	0.9951603	0.9951603	0.9951603	0.9951603	0.9951603	0.9951603	0.9951603
Complement factor I (CFI)	1.974382	0.7143198	0.7995934	0.8515901	1.0002983	0.9845129	0.8682072	0.707448	0.707448	0.707448	0.707448	0.707448	0.707448
Proliferating cell nuclear antigen gene	0.7079765	1.5706321	1.499784	1.3980265	1.4138048	1.4138048	1.4138048	1.4138048	1.4138048	1.4138048	1.4138048	1.4138048	1.4138048
Activating transcription factor 3	0.67055165	3.000033	25.913933	0.7193788	0.8727835	0.8727835	0.8727835	0.8727835	0.8727835	0.8727835	0.8727835	0.8727835	0.8727835
Focal adhesion kinase (p125FAK)	0.74363166	1.0788057	0.88502824	0.7361667	0.73779	0.73779	0.73779	0.73779	0.73779	0.73779	0.73779	0.73779	0.73779
Phase-1 RCT-289	1.181558	0.7399429	1.0693313	1.2230463	1.221383	1.221383	1.221383	1.221383	1.221383	1.221383	1.221383	1.221383	1.221383
Phase-1 RCT-269	0.9364912	1.1594729	0.9818638	0.5346712	0.6202594	0.6202594	0.6202594	0.6202594	0.6202594	0.6202594	0.6202594	0.6202594	0.6202594
Iron-responsive element-binding protein	1.6789347	0.4641822	0.49618638	1.8027393	1.5763335	1.5763335	1.5763335	1.5763335	1.5763335	1.5763335	1.5763335	1.5763335	1.5763335
MHC class II antigen RT1 A10 alpha-chain	1.0691044	1.6154394	1.493224	0.862206	0.7705742	0.8218216	0.8694966	0.4398555	0.4264012	0.5441764	0.6025198	0.8937576	1.136111
AVI sulfotransferase	1.1323982	0.37316972	0.466206	1.2935977	1.4780784	1.4780784	1.4780784	1.4780784	1.4780784	1.4780784	1.4780784	1.4780784	1.4780784
Phase-1 RCT-171	0.88392794	4.217631	3.0223002	0.734898	0.76642833	0.6845004	0.6040313	0.6130616	0.522361	0.6594745	0.7430721	0.9717378	1.0791214
Phase-1 RCT-43	0.66379505	0.57180215	0.6827723	0.734898	0.76642833	0.6845004	0.6040313	0.6130616	0.522361	0.6594745	0.7430721	0.9717378	1.0791214
Phase-1 RCT-270	0.9852139	0.28924316	0.30678255	0.4273976	0.5945948	0.6001451	0.3714872	0.3518293	0.3335137	0.40117723	0.46826515	0.5108924	0.2466726
Calcium-stimulating factor-1	1.6167281	0.8022437	1.0662149	1.0095385	1.0924473	0.9001654	1.5532322	1.3945118	1.4828888	1.0089528	0.9846374	1.0501423	1.052622
Neurotrophin	0.9026749	4.4551457	0.8943846	0.94862854	1.0244616	0.9452916	0.9197071	1.777837	2.381552	1.2808019	1.3046211	0.9795385	0.7977378
Phase-1 RCT-42	1.037408	0.5447427	0.6067823	1.306723	1.3678761	1.6259951	1.798051	1.9777837	1.9777837	1.9777837	1.9777837	1.9777837	1.9777837
Phase-1 RCT-22	1.1418693	0.68525093	0.6468896	0.946796	0.9270865	0.82511845	0.1270965	1.063278	0.3307666	0.6727053	0.8720846	0.62834103	1.3335353
AT3	0.9353478	0.8047069	2.394901	0.900788	0.92878395	0.93404087	0.9512264	0.87915534	0.7845658	1.1667881	0.9615662	1.1529136	1.3335353
Phase-1 RCT-18	0.748818	0.5859311	1.030828	0.8971505	0.9166515	0.9115502	0.7632867	0.78325566	1.0719212	0.5239651	1.0218002	0.8622614	0.6917089
Phase-1 RCT-123	0.77413533	0.9553658	0.803116	0.9075355	0.9075355	0.9075355	0.9075355	0.9075355	0.9075355	0.9075355	0.9075355	0.9075355	0.9075355
Phase-1 RCT-65	0.6775388	0.4403439	0.9578534	1.0401405	1.063148	1.1420103	1.368538	1.2871989	0.5798108	0.8520746	0.52227115	1.2224718	1.0994276
Equilibrative ribonucleoside/nucleoside transporter	0.8715434	0.53494364	0.44810086	0.5787174	0.8435618	0.5676967	0.49530452	0.49750012	0.4519077	0.52313083	0.6985533	0.53678043	0.72294355
Glucose transporter 2	1.228182	1.842438	1.5341593	1.2382277	1.7503878	1.5868022	1.6890615	1.6171918	1.7601007	1.3892057	0.48265715	0.6718653	1.1620419
Multidrug resistant protein-2	1.5154055	1.2488911	2.0053098	1.6261132	1.7449961	1.4295935	2.801703	2.6010973	2.2314851	1.4599726	1.4021882	0.7111643	1.4568866
Multidrug resistant protein-1	1.7898969	1.2194726	2.0091721	1.5962315	1.4991003	1.4088299	2.4402305	2.1625786	2.0318512	1.3448782	1.1854193	1.4592555	0.888751
Phosphatidylinositol-3-OH kinase	1.5985539	1.1671757	0.8251732	1.228001	1.1198397	1.3965826	1.0162359	1.0103179	0.967312	1.8076031	1.108916	1.7894336	0.702993
Phase-1 RCT-180	1.4201331	1.1617637	1.3940397	1.4070307	1.3807008	1.1516538	1.6127196	1.7807875	1.7981528	1.4982479	1.3986294	1.4035887	1.2523215
IL6R beta-4	1.0363377	1.0826016	1.216366	1.0506382	1.1610576	1.0161141	1.2358633	1.2353239	1.1844147	1.3344028	1.2271284	1.1947988	1.0207161
NADPH cytochrome P450 oxidoreductase	3.2657955	0.660144	0.94765866	1.5222464	1.4470071	1.9115843	1.8581034	1.5537835	1.216768	2.8773384	2.094965	4.4103885	1.0422972
Wdr1	0.8310489	1.3573456	1.4912808	1.300207	1.1454095	1.591333	1.5165863	1.3578335	1.216768	2.8773384	2.094965	4.4103885	1.0422972
Endogenous retroviral sequence, 5' and 3' LTR	0.78755221	3.1550017	3.3323248	1.6905548	0.8919222	0.9404283	0.9348931	0.87853695	0.8158914	1.4691045	1.4922466	1.2920774	0.8645849
Phase-1 RCT-53	1.163242	1.1151935	2.662133	0.8791321	0.8791321	0.8791321	0.8791321	0.8791321	0.8791321	0.8791321	0.8791321	0.8791321	0.8791321
Phase-1 RCT-54	0.8871614	1.2105626	1.5785408	0.974371	1.0843661	1.0843661	1.0843661	1.0843661	1.0843661	1.0843661	1.0843661	1.0843661	1.0843661
Phase-1 RCT-240	1.7122266	0.6827101	0.5563333	0.8383603	0.9717176	0.8225903	0.91061888	0.85976106	0.85976106	0.85976106	0.85976106	0.85976106	0.85976106
Osteopontin	1.0561644	0.9352066	3.4884732	1.66178	1.2595328	1.0353925	0.8617961	0.8617961	0.8617961	0.8617961	0.8617961	0.8617961	0.8617961
Organic anion transporting polypeptide 1	0.77054065	1.9391848	1.5988313	1.187742	1.405803	1.5395156	1.8795062	1.3676302	1.3571385	0.995984	1.1633984	3.302751	5.835304
Phase-1 RCT-241	0.7072072	0.9658679	0.92617023	1.2133422	0.8836214	1.0738444	0.8818546	1.1353949	1.1683876	0.9949493	1.1246547	2.4100811	2.7514188
Tissue factor pathway inhibitor	0.7072072	0.9658679	0.92617023	1.2133422	0.8836214	1.0738444	0.8818546	1.1353949	1.1683876	0.9949493	1.1246547	2.4100811	2.7514188
Cyclic-dependent kinase 4 inhibitor P27/Nip (allernase)	0.7072072	0.9658679	0.92617023	1.2133422	0.8836214	1.0738444	0.8818546	1.1353949	1.1683876	0.9949493	1.1246547	2.4100811	2.7514188
Phase-1 RCT-258	1.3688078	1.1668078	0.9632088	1.0305027	0.927841	1.023018	1.2158667	1.2158667	1.2158667	1.2158667	1.2158667	1.2158667	1.2158667
Adrenine nucleotide translocator 1	1.3789457	0.6547081	0.965422	1.0470083	1.012843	1.2158667	1.2158667	1.2158667	1.2158667	1.2158667	1.2158667	1.2158667	1.2158667
Alpha-1 acid glycoprotein	1.4127148	0.9586765	0.71651073	1.383678	1.0173521	1.6145632	1.5484849	1.4663186	2.3195363	2.1705971	0.942228	1.502966	31.327219
MHC class II antigen RT1 B-1 beta-chain	0.61415976	1.0250122	0.815973	1.230103	1.5131824	1.0455581	0.8445204	0.84221777	0.58036974	0.8222332	1.0679607	1.1473274	0.65525264

Table 28

Organic cation transporter 3	1.2317422	1.3045697	1.0324118	1.2865575	1.3571369	1.1008006	1.7612047	1.5812718	1.4902891	1.2528077	1.066767	1.1494646	1.3165937	1.6819306
Hypoxia-inducible factor 1 alpha	0.86015145	0.8891164	1.1706212	1.0920081	1.1326826	1.0536665	1.3435054	1.3077757	1.4366746	0.86038107	0.8738076	0.7006569	0.84720814	0.8333588
Phase-1 RCT-43	1.1309488	1.2291051	1.375806	0.8824867	0.92333516	0.9737253	1.0427649	0.9303925	0.85726347	1.5522428	1.3757614	1.543541	0.8646397	0.7869426
Phase-1 RCT-45	0.87584266	1.1414986	1.1978563	1.1851205	1.1354263	0.97978145	1.1983622	1.0611384	1.0897262	1.1313622	1.099555	1.0715438	0.8705536	0.8400881
Malate dehydrogenase, cytosolic	2.4468155	0.4623384	0.4853586	0.8469616	0.8952073	0.9012313	0.7065459	0.73663276	0.69163464	0.70000076	0.9887265	0.81866015	0.90629	0.24127454
VI-30 element	0.65965205	0.6633246	0.697013	0.6572947	1.6157024	2.935202	6.0762467	4.273827	4.1250467	1.0183594	0.8813139	0.7274023	1.671253	2.4648884
Phase-1 RCT-189	0.8064684	0.5803493	0.6399075	1.0418088	0.91635273	0.8668164	0.5292517	0.6948884	0.6401344	0.6941226	0.7435171	0.9507075	1.0148056	0.8129803
Alpha-fetoprotein	1.7706771	0.6794586	0.5537807	0.6351688	1.3627281	1.3980073	1.5450765	1.4245417	1.62561	0.9976004	0.8638718	1.1512052	1.1350029	1.8894112
Calgranulin B	0.81723728	0.8997003	1.0687149	0.851688	0.9206595	0.5783336	0.3503906	0.6407597	0.5845729	0.6495005	0.8049223	0.71526205	1.1477815	1.1241575
Tissue plasminogen activator	1.2913831	1.0014521	0.89281165	0.9177454	1.0055978	0.8621468	0.7885176	0.950606	0.9183078	0.9378313	1.115007	1.4239774	0.8087276	0.7463352
Phase-1 RCT-196	0.88961846	0.7515554	0.40380043	0.8051332	0.93551075	0.8623686	0.4013535	0.5531256	0.4982249	0.58247616	0.7555594	0.66812685	1.4395864	1.641333
Liver fatty acid binding protein	1.7672657	0.84572766	0.64819163	0.82985234	0.8888654	0.8507637	0.82638736	0.74807766	0.77967423	0.9028517	0.92034025	0.8933159	1.1976868	0.76354056
Alpha-1 microglobulin/burnin precursor (Amp)	0.73158765	1.0927681	1.1407583	1.0190665	1.0712765	1.0446794	1.1725116	1.1980416	1.0214736	1.2067941	1.0339139	1.1766868	0.7477118	1.1914624
Phase-1 RCT-151	1.3090081	0.59424675	0.60035864	0.88819465	0.8202499	0.9067048	0.93119156	0.9404508	0.8889048	0.8556883	0.8090683	0.8555381	1.446598	1.1914624
Phase-1 RCT-158	0.74841084	1.2118151	1.6058261	1.3216422	0.94215226	1.0302746	1.0307572	0.9395919	0.99113573	1.0284461	1.020275	1.0854615	1.0557940	0.65533334
Phase-1 RCT-221	1.40588	1.2531507	1.3024855	0.9584677	0.97901237	0.99888116	0.8217549	0.9047294	0.83831593	1.4304342	1.2037196	1.4331251	1.0458344	0.86882725
Phase-1 RCT-235	1.3052732	1.2579489	1.7612103	0.817833	1.007456	0.8430413	0.82415706	0.74864244	0.83074594	0.7452376	0.95953975	0.85782316	0.6980359	0.71033704
Organic anion transporter 3	0.7832532	0.94709594	1.0673777	1.578139	1.8503144	1.6188367	3.1427984	2.6413348	3.2151663	1.2833747	1.1878209	1.369608	0.9790733	1.2268183
Matrix metalloproteinase-1	1.0097085	2.2192856	1.0873777	0.48416182	0.5594658	0.44183472	0.2012278	0.27088163	0.25410684	0.5386493	0.5307884	0.5049582	1.3083173	1.3042926
Urokinase-type plasminogen activator	0.7735106	0.4579613	0.15528676	0.48416182	0.5594658	0.44183472	0.2012278	0.27088163	0.25410684	0.5386493	0.5307884	0.5049582	1.3083173	1.3042926
Phase-1 RCT-212	0.83942064	1.0733169	0.9866604	1.5880073	1.3788545	1.5949147	4.0689783	2.5560122	2.3504655	1.2606567	1.0585625	0.9083719	1.0228524	1.011859

(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 18).

(2) Compound and dose abbreviations as in Table 1.

(3) Individual animal number

(4) Liver inflammation classification for compound-dose group at 72 h: yes= necrosis observed; yes= both, necrosis with inflammation observed; no, no histopathology observed

(5) Predictive gene (as in Table 18 and as included in Table 26)

Table 26

Table 28. Expression Data for 6 Hour Timepoint (1)			
Compound/Dose (2)	LPS B		
Animal Number (3)	353		
Liver Toxicity Inflammation Classification (4)	yes-both		
Gene Name (5)			
Insulin-like growth factor binding protein 1	4.568517		
Gadd153	2.851768		
c-myc	1.998253		
NFkB	1.1386163		
Cathepsin L sequence 2	4.120745		
Heme oxygenase	2.0065484		
Phase-1 RCT-108	1.2147709		
Phase-1 RCT-111	0.8824904		
Argininosuccinate lyase	1.323768		
DNA polymerase beta	1.3928855		
Phase-1 RCT-103	0.9464983		
Ribosomal protein S9	1.352015		
Phase-1 RCT-114	1.2587955		
Phase-1 RCT-15	1.6526421		
Macrophage inflammatory protein-2 alpha	2.5921078		
NGF-inducible anti-proliferative putative secreted protein (PC3)	2.8348636		
Phase-1 RCT-181	1.0781014		
Phase-1 RCT-63	2.400022		
Oxali D3	2.3634803		
Phase-1 RCT-108	0.8178527		
Phase-1 RCT-58	60.688166		
Phase-1 RCT-192	1.0859823		
Phase-1 RCT-75	1.1048214		
Acetyl-CoA carboxylase	0.7213042		
Phase-1 RCT-95	0.93166824		
Cystatin C	1.345321		
Phase-1 RCT-49	2.2827415		
Phase-1 RCT-9	2.542881		
Gadd45	3.5787094		
Phase-1 RCT-156	0.9910277		
Ceritin	1.5795441		
Phase-1 RCT-127	1.6490371		
Macrophage inflammatory protein-1 alpha	2.5032089		
Zinc finger protein	2.420045		
Phase-1 RCT-73	0.5998307		
Glutamine synthetase	1.4402163		
Carb-binding protein	2.1400852		
Phase-1 RCT-242	3.6428814		
Phase-1 RCT-30	2.5695453		
Elongation factor-1 alpha	1.3882423		
Integrin beta1	1.8610729		
Insulin-like growth factor binding protein 5	1.4014114		
Phase-1 RCT-59	0.82816344		
Phase-1 RCT-76	1.2673161		
Fertilin H-chain	1.4359804		
Selenoprotein P	0.4084829		
PTEN/MMAC1	0.5242306		
Phase-1 RCT-214	0.54829186		
Phase-1 RCT-112	0.6959692		
Thymidylate synthase	0.46143058		
Phase-1 RCT-13	1.0316868		
Nucleosome assembly protein	0.6796462		
Cholesterol 7-alpha-hydroxylase (P450 VII)	0.765073		
Vesicular monoamine transporter (VNAT)	0.7472857		
Phase-1 RCT-260	0.71883976		

Table 28

Phase-1 RCT-32	0.7401505
Peroxisome assembly factor 1	1.2273716
8-oxoquinoline DNA glycosylase	0.9434693
Phase-1 RCT-42	0.9055276
Matrin F/G	0.33845293
Phase-1 RCT-184	0.80475354
Phase-1 RCT-168	0.55317867
Phase-1 RCT-119	0.56330987
Carbonic anhydrase II	0.7887593
Tryptophan hydroxylase	0.70211387
Phase-1 RCT-71	1.3607856
Phase-1 RCT-179	1.7305132
Phase-1 RCT-161	0.9114856
Phase-1 RCT-207	0.7206125
Phase-1 RCT-144	1.3412372
Phase-1 RCT-225	1.6334157
Cytochrome P450 2E1	0.6942659
ID-1	1.2712274
Thionin-1 (Tct1)	2.7709494
Carbonic anhydrase III	0.11000989
Phase-1 RCT-140	0.52821286
Complement component C3	1.5176481
Glucokinase	0.5141817
Phase-1 RCT-173	0.3338598
3-methyladenine DNA glycosylase	0.9985159
Peroxisomal multifunctional enzyme type II	0.71914285
Phase-1 RCT-40	0.4984311
Senescence marker protein-30	0.23705378
Cyclin G	2.611184
Melanoma-associated antigen ME491	2.1062632
Phase-1 RCT-28	1.0913836
Emedin	0.53174365
Alcohol dehydrogenase 1	0.22452127
Stem cell factor	0.34132013
JNK1 stress activated protein kinase	0.95233355
Protein tyrosine phosphatase alpha	0.8505782
Phase-1 RCT-35	1.8776507
Ubiquitin conjugating enzyme (RAD 5 homolog)	1.857328
DNA topoisomerase I	1.5161628
Phase-1 RCT-290	0.9912447
Superoxide dismutase Mn	21.8153
Beta-tubulin, class I	1.3606906
Carbamyl phosphate synthetase I	0.5134964
Dialcylglycerol kinase zeta	1.036547
Phase-1 RCT-141	7.081637
14-3-3 zeta	1.5407195
Gamma-actin, cytoplasmic	1.940018
Ribosomal protein L13A	1.5530978
IKB-epsilon	1.2574182
Phase-1 RCT-65	1.6146058
G-kin	1.250455
Protein O-mannosyltransferase 1 (Pomt1)	1.2683154
HMG CoA reductase	0.98038916
Phase-1 RCT-12	1.1956736
Interferon related developmental regulator IFRD1 (PC4)	1.4814252
Glucose-regulated protein 78	2.6067746
3-beta-hydroxysteroid dehydrogenase (HSD3B1)	0.5904704
Caspase 6	0.8947196
Phase-1 RCT-169	48.983387
Phase-1 RCT-197	1.2471777
Phase-1 RCT-34	0.7838734

Table 28

Phase-1 RCT-72	1.5678983
Pyruvate kinase, muscle	1.8940941
Phase-1 RCT-288	0.46658143
Phase-1 RCT-90	0.0673073
Cytochrome P450 2C39 (alternate clone 2)	1.2018036
Phase-1 RCT-290	0.45444484
Phase-1 RCT-261	1.8972265
Methylcrotyl-CoA racemase alpha	1.4112136
Cytochrome P450 1A2	0.85475254
Phase-1 RCT-297	1.4239218
Monopamine oxidase B	0.89664174
Phase-1 RCT-264	1.0396319
Perisome proliferator activated receptor gamma	0.36507794
Phase-1 RCT-143	0.87230665
Phase-1 RCT-251	0.87341724
Phase-1 RCT-117	0.65981558
Glutathione S-transferase theta-1	0.64593244
Phase-1 RCT-91	0.74357253
Phase-1 RCT-148	0.54769907
Phase-1 RCT-142	1.0775339
Activin receptor type II	1.2258295
Glycine methyltransferase	0.58523884
Phase-1 RCT-281	0.6371715
Ciliary neurotrophic factor	1.0356685
Gap junction membrane channel protein beta 1 (Gjb1)	0.355682
Phase-1 RCT-98	0.42465898
Phase-1 RCT-287	0.7561602
Retinol-binding protein (RBP)	0.7167043
Very long-chain acyl-CoA synthetase	0.7138629
Syndecan-1	0.8847882
Sialthrin	0.71001885
Phase-1 RCT-145	0.8149781
Axin	0.81620055
Phase-1 RCT-489	0.53824827
Sarcoplasmic reticulum calcium ATPase	0.8204625
Alpha-2-macroglobulin, sequence 2	1.429218
Phase-1 RCT-204	1.3370055
Vascular endothelial growth factor	1.184116
NADP-dependent isocitrate dehydrogenase, cytosolic	0.39178082
DNA binding protein inhibitor ID2	0.41138396
Glutathione S-transferase Ya	0.71286144
Epoxide hydrolase	0.4791742
Insulin-like growth factor I	1.0321839
Prostaglandin H synthase	1.1223301
Phase-1 RCT-136	0.5800501
Phase-1 RCT-137	1.2653257
Phase-1 RCT-138	1.0430855
Hepatic lipase	0.89394786
Phase-1 RCT-164	0.6547884
Acyl-CoA dehydrogenase, medium chain	0.8646032
Glutathione S-transferase Yb2 subunit	0.6576478
Carbamyl reductase	0.93670774
Phase-1 RCT-166	0.9404447
Acylglutathione E	0.76939084
UDP-glucuronosyltransferase	1.1827715
Glutathione S-transferase P1	0.6474369
Disulfide isomerase related protein (ERp72)	1.3454714
Ribosomal protein L13	1.0555359
Ceruloplasmin	3.4816764
Intra-alpha-inhibitor H4 heavy chain (Ith4)	2.1815777

Table 28

Phase-1 RCT-3	1.2275816
Felin beta (Felin)	1.0884189
3-hydroxybutyrate dehydrogenase	0.62687065
Carbonic anhydrase III, sequence 2	1.1371834
Phase-1 RCT-10	0.9866933
Alpha-2-macroglobulin	0.9744607
Dynamin-1 (D100)	0.9764712
Lysyl oxidase	1.0103565
Phase-1 RCT-252	0.5656986
Phase-1 RCT-20	1.362882
Phase-1 RCT-278	1.5141633
Phase-1 RCT-42	0.8223953
Phase-1 RCT-25	0.9411478
Cytochrome P450 2C11	5.632043
Phase-1 RCT-202	0.899807
Complement factor I (CFI)	1.1942462
Proliferating cell nuclear antigen gene	1.4535215
Activating transcription factor 3	0.7431667
Focal adhesion kinase (pp125FAK)	1.7232553
Phase-1 RCT-289	0.8659947
Phase-1 RCT-259	3.9417255
Iron-responsive element-binding protein	0.5653983
MHC class I antigen RT1A1(n) alpha-chain	2.450555
Avi sulfolipase	1.105186
Phase-1 RCT-171	1.0957932
Phase-1 RCT-43	0.784247
Phase-1 RCT-270	0.39047826
Colony-stimulating factor-1	1.1140326
IL-cardiomy	1.0902765
Phase-1 RCT-42	0.62503555
Phase-1 RCT-22	0.6469559
AT-3	1.2718793
Phase-1 RCT-48	0.8681813
Phase-1 RCT-123	1.0578805
Phase-1 RCT-56	1.1086546
Equilibrative nitrobenzylthioinosine-sensitive nucleoside transporter	0.59748036
Glucose transporter 2	0.4255876
Multidrug resistant protein-2	1.0085322
Multidrug resistant protein-1	1.2634549
Phosphatidylethanolamine-binding protein	1.372212
Phase-1 RCT-180	1.0462857
Integrin beta-4	1.1212734
NAADPH cytochrome P450 oxidoreductase	0.8934487
Wt4f1	1.0160923
Endogenous retroviral sequence, 5' and 3' LTR	1.6950898
Phase-1 RCT-53	0.7273761
Phase-1 RCT-54	1.2131859
Phase-1 RCT-240	0.4028025
Osteopontin	1.0155452
Organic anion transporting polypeptide 1	0.50004977
Phase-1 RCT-241	2.7665603
Tissue factor pathway inhibitor	2.7338066
Cyclin-dependent kinase 4 inhibitor P27kip1 (alternale clone)	0.92134655
Phosphodiesterase D	1.234256
Phase-1 RCT-30	1.8718308
Phase-1 RCT-268	0.7501078
Phase-1 RCT-113	1.396177
Adenine nucleotide translocase 1	0.372765
Alpha-1 acid glycoprotein	35.5396
MHC class II antigen RT1B-1 beta-chain	0.33211276

Table 28

Organic cation transporter 3	1.4637811
Hypoxia-inducible factor 1 alpha	0.79341966
Phase-1 RCT-43	0.5404529
Phase-1 RCT-48	0.3718522
Malate dehydrogenase, cytosolic	0.8418461
VI-30 element	2.8028848
Phase-1 RCT-189	0.876535
Alpha-fetoprotein	1.4461476
Calgranulin B	1.0198245
Tissue plasminogen activator	1.054802
Phase-1 RCT-195	0.77532244
Liver fatty acid binding protein	1.1297392
Alpha-1 microglobulin/bikunin precursor (Amp)	1.0846615
Phase-1 RCT-294	0.83206767
Phase-1 RCT-151	1.3944428
Phase-1 RCT-159	1.1480112
Phase-1 RCT-221	0.9822098
Phase-1 RCT-235	1.0942787
Organic anion transporter 3	0.6148447
Matrix metalloproteinase-1	1.3289477
Urinary protein 2 precursor	0.98741325
Phase-1 RCT-212	1.0400214
(1) Gene expression data for 6 hour timepoint are presented as mean ratio of treatment/control for all 6 hour predictive genes (Table 18).	
(2) Compound and dose abbreviations as in Table 1.	
(3) Individual animal number	
(4) Liver inflammation classification for compound-dose group at 72 h: yes-necr, necrosis observed; yes-both, necrosis with inflammation observed; no, no histopathology observed	
(5) Predictive gene (as in Table 18 and as included in Table 25)	

Table 28

Table 29. Expression Data for 24 Hour													
Timepoint (1)	ANIT 15	ANIT 15	ANIT 15	5-FU 13	5-FU 13	5-FU 13	5-FU 50	5-FU 50	5-FU 50	5-FU 50	APAP 250	APAP 250	APAP 250
Compound-Dose (2)	1044	1045	1046	no	no	no	no	no	no	no	no	no	no
Animal Number (3)	no	no	no	no	no	no	no	no	no	no	no	no	no
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	1.234655	0.89763516	1.0834413	0.86296854	0.9185269	1.3651268	1.1415585	1.0492892	0.8976617	0.8618335	1.0327198	1.0409781	1.0409781
Gamma-actin, cytoplasmic	1.1349468	0.99194306	1.0710337	1.0739003	0.9911743	0.92691845	1.2817678	1.1361277	1.2611806	1.0253922	0.98509234	0.9177477	0.9177477
Phase-1 RCT-145	0.9991312	0.8330532	0.76375794	1.2129412	1.2428364	1.6599728	0.9869085	1.3172091	1.0713923	1.0286342	0.8542578	0.9179477	0.9179477
Gadd45	0.96064323	1.0556884	1.06895	1.0378032	1.0608842	1.1426469	0.89444646	0.87643306	0.9308587	0.9303526	0.9098523	0.86615974	0.86615974
Phase-1 RCT-78	1.2969109	1.0790027	1.0589168	0.9947478	0.9796271	1.0087534	1.2731256	1.208655	1.012806	1.0394216	1.3954457	1.5575236	1.5575236
Fas antigen	1.0204061	1.3235006	0.9874173	1.1621082	1.1777798	1.6081469	1.0507671	1.3891182	1.428144	1.068924	1.0778382	1.208523	1.208523
Macrophage inflammatory protein-2 alpha	0.9659787	0.88378914	0.8777278	1.1494988	1.0974748	1.2803507	0.89892273	1.2903507	1.2320006	1.2903488	1.2740508	1.3898892	1.3898892
Interleukin beta1	1.123398	1.2213581	1.0871301	1.0950805	1.020762	0.972094	0.8437409	1.8543331	2.3668187	1.1915271	1.1913304	1.1588718	1.1588718
Aspartate aminotransferase, mitochondrial	1.0534517	0.9193872	1.0605085	0.7452737	0.8695823	2.210025	1.1210321	1.0010431	0.8411726	0.8224157	0.81655246	0.86196043	0.86196043
Caselin-alpha	0.96888557	1.0265313	1.0674243	1.3407464	1.1457593	1.4703288	1.0769711	1.4734968	1.0916853	1.1707867	1.2052446	1.2835386	1.2835386
Malic enzyme	0.94202816	0.6895453	1.5089952	1.2900716	1.1457593	2.2280629	1.0160489	1.2249068	0.80534127	0.9758284	0.8617103	0.95272603	0.95272603
Phase-1 RCT-30	1.3389288	1.833954	1.1249412	1.2349441	1.425225	1.6657193	1.0872158	1.231627	1.343615	1.115155	0.95241564	1.3196821	1.3196821
Hepatocyte growth factor receptor	1.0924237	1.0124472	1.0826418	0.8540512	0.8649094	1.0848104	0.85718745	1.0985358	0.80534127	0.9758284	0.8617103	0.95272603	0.95272603
Sodium/glucose cotransporter 1	0.51595306	0.60382884	0.6324032	0.6784013	0.6374462	0.714733	0.6710568	0.9030681	0.8464226	0.5893008	0.8030097	0.708357	0.708357
Phase-1 RCT-27	1.5090296	2.6885988	0.47315645	1.2930773	0.58401214	0.7613031	0.5727653	0.62349147	0.5567853	0.6651171	0.65771854	2.1333268	2.1333268
Phase-1 RCT-50	1.0811491	1.1751633	1.1560528	1.312978	1.1956394	1.5409699	1.1319916	1.1666703	0.815704	1.1178806	1.1181489	0.8020350	0.8020350
Phase-1 RCT-288	1.1132158	0.92859047	0.9892047	0.8722476	0.8292279	0.7716829	0.92160494	0.82325788	0.82015973	0.7995211	0.83820805	0.76386026	0.76386026
Phase-1 RCT-37	0.8961507	0.8018341	0.7317065	0.8048825	0.7887462	0.7408214	0.92125154	0.74812897	0.8541688	0.947503	1.0052108	0.94906	0.94906
Organic cation transporter 3	0.98723084	0.9149463	0.9808984	1.197376	0.857618	1.0166827	1.0596878	1.1952068	0.8582124	0.7761408	0.8582398	0.801378	0.801378
60S ribosomal protein L6	0.98022713	0.815434	0.9421682	0.7740368	0.7103866	0.7249129	0.9887549	0.8730169	0.8056796	0.8307589	0.8993789	0.7420199	0.7420199
Zinc finger protein	1.1231229	1.183528	1.0070511	1.2828006	0.86754364	1.0133293	1.174386	0.9754057	1.1371928	1.0637328	1.0233665	1.1575507	1.1575507
Calgranulin B2	0.8940242	0.8936915	0.9042774	0.928973	0.8400786	1.0895544	0.86228047	1.155073	1.0224754	1.1632669	1.2424307	1.0952004	1.0952004
ID-1	1.2034271	1.4213878	1.3590462	1.028004	0.91022	0.8051377	1.1966172	1.0789543	1.215398	1.037884	0.9159879	0.8002337	0.8002337
Phase-1 RCT-92	0.75784415	0.7388149	0.84281866	0.92315245	0.864412	0.86243824	0.8777324	0.72253668	0.830805	0.85871186	0.871622	0.8558931	0.8558931
Phase-1 RCT-115	1.2406228	1.2578516	1.1813779	1.4177482	1.3538887	1.8087263	1.3189983	1.4116362	1.2657182	1.512701	1.3987755	1.3568934	1.3568934
Natrin F/G	0.97443837	1.104852	0.8550024	0.8278782	1.009787	0.8787073	1.0522065	1.06837	1.2039248	1.2915188	1.3863862	1.274342	1.274342
MutL homologue (MLH1)	0.9281704	1.1285172	1.1205413	1.3585458	1.1089009	0.9181042	1.0419033	1.2675248	1.1186501	0.9887914	1.022286	1.463408	1.463408
Phase-1 RCT-78	1.0508328	0.9280916	1.040232	1.171469	1.1031284	1.3088241	1.1046076	1.3768735	1.073142	1.209992	1.2360285	1.1634586	1.1634586
Sorbinol dehydrogenase	1.6045661	1.4889408	1.4781886	1.0771313	0.95911485	0.9205388	1.1735627	1.084668	1.0702575	1.102056	1.1835359	1.087711	1.087711
Phase-1 RCT-24	1.1957718	1.0805016	1.2451801	1.1663348	1.31524	1.0587475	1.2478442	1.2494008	1.2804913	1.2104003	1.2700951	1.232263	1.232263
Calgranulin B1	1.0716254	1.0552263	1.1184009	1.095973	1.2425723	1.190517	1.2067721	1.2068681	1.0149858	1.2212655	1.2214321	1.1334889	1.1334889
Elongation factor-1 alpha	0.7427184	0.8893508	0.85446733	0.77340784	0.787115	0.84501476	0.7887863	0.7970261	0.8594949	0.8353572	0.8698408	0.9081232	0.9081232
L-glutono-gamma-lactone oxidase	1.035286	0.88229166	1.206848	0.8881217	1.3411688	1.0456588	1.2213012	1.1252559	0.8716736	1.0050704	1.268565	1.0625885	1.0625885
Phase-1 RCT-33	1.0367855	0.81639037	1.1202873	0.78445183	0.9035608	0.9077859	0.83877647	0.8504484	0.8223167	1.0050704	1.268565	1.0625885	1.0625885
G-jun	1.1744986	1.4761358	1.1978484	1.6867871	2.1156347	1.9465342	1.3228419	0.94239163	0.8234763	1.0050704	1.268565	1.0625885	1.0625885
Phase-1 RCT-233	1.0828756	0.9383539	1.077185	1.1331162	0.89443335	1.113472	1.0854328	0.8842561	0.9459009	0.8348763	1.0209336	1.20148	1.20148
Phase-1 RCT-38	1.0861074	1.928715	1.0917805	1.3875717	1.1097107	1.1097107	1.4220744	1.1488087	1.2405444	1.4084667	1.1248877	1.1911055	1.1911055
Phase-1 RCT-242	1.1259185	1.0985442	1.0375160	0.9117145	1.3550928	0.8866887	0.8872145	1.0954388	1.0280274	1.0151833	1.0084173	0.9225293	0.9225293
Phase-1 RCT-181	0.7240858	0.7483657	0.839102	0.9447874	0.7118444	0.89461327	0.8308889	0.6675405	0.8435878	0.7661237	0.7454	0.7109049	0.7109049
Phase-1 RCT-185	0.9294973	0.87913543	0.8680937	0.84079425	0.8114437	0.7780451	1.011154	0.931642	0.91087025	0.86253616	0.8186495	0.8235564	0.8235564
Phase-1 RCT-179	1.0041288	1.0178332	1.0406581	1.1028855	1.0688541	1.0810028	1.0545267	1.0545267	1.2151888	0.98285544	0.9194128	0.9588442	0.9588442
Phase-1 RCT-144	0.8691682	0.82598716	1.1694446	0.80623953	0.69924885	0.80623953	0.8794727	0.82248455	0.8824672	0.8367836	0.8914149	0.868012	0.868012
IRB-a	1.5419785	1.5970343	1.085522	1.2804885	1.3645488	1.5460782	1.1515332	1.4504083	1.8018307	1.5824846	1.6279248	0.915002	0.915002
Phase-1 RCT-225	0.87068381	0.7853882	0.9022285	0.766707	0.760862	0.80278474	1.0141122	0.7890627	0.8916913	0.86709887	0.9518953	0.8320193	0.8320193
60S ribosomal protein L6 (alternate clone 1)	1.345743	0.85662943	1.117432	0.985182	1.4076198	1.629709	1.3852527	1.2803719	1.5404369	1.1870043	1.374863	1.1042604	1.1042604
Beta-tubulin, class I	0.8078203	1.3479131	0.71125643	0.90337217	0.93819814	1.0345547	1.6298143	1.9177527	1.0098183	1.0122682	1.1600221	1.1600221	1.1600221
Multidrug resistant protein-2													

Table 29

Phase-1 RCT-49	0.9144408	0.8821536	1.0273243	1.0697739	1.1442828	1.0990216	1.0087235	1.0197467	1.0847382	0.9791626	0.88589704
Calgranulin B3	1.1572421	1.0405387	1.0764239	1.0760594	0.9347457	0.8919286	1.1561895	1.1123358	1.1343172	1.0841323	1.0840886
NADP-dependent isocitrate dehydrogenase, cytosolic	0.9461686	0.90899603	0.97038144	1.7609579	0.7661006	0.80742747	0.65310066	0.71696216	0.8255751	0.90267307	0.8192186
Oxalacetate binding protein 1	0.8172436	0.82038655	0.8733505	1.2070948	1.0614291	1.5820359	0.9494123	1.1777046	0.9329273	1.023454	1.0074737
Sodium/voltage acid cotransporter	0.6770003	0.8037157	0.9536247	0.7172383	0.73622814	0.671170465	0.6441693	0.6426185	0.7071108	0.5944278	1.0647414
Phase-1 RCT-174	0.9598845	0.8398725	1.0769125	1.1902689	1.1802689	1.1802689	0.9163781	1.0163781	0.9838087	0.9267172	0.9888574
Phase-1 RCT-77	0.8570215	0.9204426	0.9318703	0.8254482	0.7166043	0.89963133	0.69412598	0.69412598	0.8494135	0.9686894	0.7244774
Inositol polyphosphate multikinase (ipmk4)	0.87777497	0.680148	0.73252434	0.7534267	0.7854738	0.96708104	0.8748348	0.8775757	0.7676091	0.74850893	0.87469484
Phase-1 RCT-256	0.8255394	0.756739	0.8494308	0.9216274	1.121024	1.0076169	1.053487	0.8195931	0.8926932	1.0094044	0.8019432
Equilibrative nucleoside/nucleosine-sensitive nucleoside transporter	0.8776653	0.8876054	0.76603365	0.8877283	0.7155998	0.8258019	0.80524725	0.82457525	0.6847123	0.87856525	1.0180075
CDK102	0.9417614	0.91255883	0.9670025	0.96348826	0.9694115	0.89681878	1.1245929	0.91689503	1.0394915	0.9491674	0.876214
Phase-1 RCT-209	1.0279475	1.0639291	0.8998275	1.126812	0.9809017	1.0506748	0.9152064	0.8464680	0.9200227	0.9276592	1.0307601
NADH-cytochrome b5 reductase	1.1483488	1.0598592	1.040206	0.8604593	0.78812057	0.9237816	0.63203858	0.63203858	0.7970038	0.9940926	1.1405313
Dynamin-1 (D100)	0.7341891	0.81723255	0.8457148	1.0895996	1.0328438	1.0394361	0.95772314	0.9478024	1.0657479	1.0713295	0.99276567
Serine/threonine kinase protein-30	0.6908734	0.761073	0.83395418	0.7876478	0.8078278	0.92619824	0.81392763	0.70924735	0.7394215	0.7951443	0.8592868
Phase-1 RCT-48	0.87097087	0.92505884	0.9641884	0.867008	1.0033953	0.85216536	1.0870309	0.9204272	1.0734688	0.8725134	0.99255943
Camelline palmityl-CoA transferase	1.558981	1.485559	1.3855755	1.2183528	0.97316184	0.85989874	1.0125916	1.1495741	1.022337	1.0695221	1.046824
Alpha-2-microglobulin	0.8287466	0.8014	0.71943134	1.007066	0.55873	0.7251498	0.82999043	0.74194648	1.1331223	1.0085552	0.5680697
Aviculin protein CII	0.8928475	0.875975	0.93075284	1.087775	0.6908777	0.8739698	0.8736687	0.77284093	0.86128008	0.918155	0.8429518
Calreticulin L sequence 2	0.8757198	1.0427825	0.70154217	0.7277387	0.92515635	0.7494274	0.82208885	0.82208885	0.8365451	0.8534869	0.8992265
Phase-1 RCT-141	1.1970402	0.82986065	0.8408571	0.81166576	0.6040094	0.57757684	0.75373385	0.6976599	0.8989294	1.1073164	0.88824165
Phase-1 RCT-289	1.160775	1.0622267	1.1212038	1.206356	1.168918	1.2466874	1.2949888	0.9343015	0.9846902	1.1073164	0.88824165
Endothelin-1	1.1317997	1.1354519	1.140341	1.4562573	1.2271682	1.430877	1.184217	1.5515268	1.4121863	1.0774042	0.9297689
Phase-1 RCT-140	0.97043765	0.6380574	1.0218078	1.1762807	1.1999353	1.6898232	0.8930439	1.0550435	1.0104868	1.0577534	1.1784245
Cyclin D1	1.1096820	1.058176	0.797338	1.0745317	0.8607772	0.9678616	1.0255075	1.0664393	1.0813783	1.1357684	1.1654278
Phase-1 RCT-287	0.8332938	0.81300678	0.9094327	0.843593	0.6828604	0.77135247	0.9250639	0.8333855	1.3822327	0.5053428	0.6742522
Phase-1 RCT-281	0.973105	0.9765731	0.9140749	0.7319957	0.8828263	0.7888103	0.8662419	0.72188956	0.89464605	0.8722362	0.6808021
Retinol-binding protein (RBP)	0.8378438	0.9524888	1.0820577	0.80257404	0.885737	0.8354789	1.0933633	1.0933633	1.0162517	0.9839082	0.86192254
ATP-stimulated glucocorticoid-receptor translocation promoter (GyA)	0.7657489	0.9016016	0.8532308	0.7628275	0.6054723	0.5911314	0.7485435	0.6588803	0.7682437	0.80540585	0.8531158
Phase-1 RCT-60	0.7606202	0.87876885	0.68686885	0.68632554	0.9117568	0.763943	0.980634	0.8545556	0.9719116	0.7336852	0.84268339
Phase-1 RCT-80	1.1408002	1.0694015	1.181528	1.0377604	1.0205468	1.0004708	0.9919835	0.9588418	0.96880823	1.041147	0.9957007
Pyruvate kinase, muscle	0.7598414	0.9789988	0.8118107	1.038366	1.3005311	1.2687137	1.1698873	1.2623621	1.049505	1.2455558	1.1347631
PAR interacting protein	1.0212445	1.0472688	1.088152	1.0739652	1.0728491	0.9728491	1.1765709	1.0820519	1.654148	0.97882134	0.999228
Nucleoside diphosphate kinase beta isoform	1.1012578	0.96142485	1.2050774	0.8638704	0.7603818	0.97203326	0.79922533	0.86385155	1.0197171	1.2296636	0.88040886
Gadd153	1.0656637	1.0818016	1.1014409	1.3004087	1.1418839	1.2355888	1.1323394	1.3915831	1.2783103	1.2222211	1.0213858
Insulin-like growth factor binding protein 1	0.8385347	1.01372	0.7705884	0.75392856	0.85816467	0.7616749	1.1499928	1.1498775	0.8828508	1.1264431	1.1723659
c-Hras	1.2052535	1.0465447	1.132804	0.9631354	1.1069282	0.97872594	1.3339578	1.185431	1.2420834	1.0740927	0.9608217
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	0.74152835	0.75263107	0.6513983	0.79007695	0.59532344	0.70286286	0.63820595	0.59312034	0.59261674	0.780278	0.93681484
Phase-1 RCT-82	1.16288	1.053268	1.1032131	0.78168245	0.86951478	0.95001805	0.7580876	0.8302579	0.48724942	0.7485575	0.96289655
Alpha 1 - inhibitor III	0.6311194	0.5502825	0.8670506	0.62807304	0.567337	0.7400828	0.8073888	0.6504054	0.8344167	0.43913028	0.6922847
Sterol carrier protein 2	0.839796	0.7313282	0.8311451	0.7284592	0.746314	0.854628	0.85189235	0.87692514	0.7622097	0.9517428	0.834413
Organic anion transporter 3	0.74572876	0.8632118	0.7191772	1.0418878	0.9527009	1.3286465	0.71043943	0.3038136	1.1778889	1.2156521	1.1630347
Calgranulin B4	1.1671687	0.96385194	1.1359466	0.93954388	0.86723044	1	1.1081185	0.84632903	0.84660183	1.081729	1.2471573
Phase-1 RCT-182	0.8759214	0.9559407	0.9688731	0.9838918	0.7504907	0.68780254	0.83080246	0.7458428	0.9856007	0.8620305	0.9856007
Calgranulin B8	0.73598835	1.015346	0.9691358	1.0402368	0.9007189	0.89842724	0.9413737	0.8325892	0.8102021	0.9325883	0.84124637
Aldose dehydrogenase, microsomal	1.834677	1.1346823	1.2817447	0.8613519	0.8138298	0.914008	1.00652	0.9069831	0.87688375	0.8556862	0.9467101
Phase-1 RCT-128	0.64305305	0.7403402	0.8437682	0.8437682	0.73218185	0.8534293	0.89893454	0.87692566	1.0075587	0.9543832	0.9381317
Phase-1 RCT-102	0.8053058	0.75500985	0.86117848	1.1951389	1.6709581	1.5983763	1.5027566	0.8443857	1.075381	0.67626554	0.762918
Preprocalgranin, sequence 2	0.6399554	0.76154457	0.5887943	0.80359167	0.6090865	0.7016493	0.8279401	0.8445105	0.7668984	0.6698308	0.71387528
Apolipoprotein AII	1.3045008	1.400468	1.240948	0.7773237	0.9490607	1.0148083	0.8767614	0.86027454	0.7690413	1.1876989	0.9185287
Phase-1 RCT-10	0.7297973	1.0007588	0.78612375	0.91552407	0.8772284	0.7463327	0.7463327	0.7463327	1.0636661	1.0082602	0.9002192
Phase-1 RCT-46	1.0922433	1.0387018	1.2802345	1.3843823	1.4315051	1.4850004	0.8458482	0.90479887	1.0702826	1.358267	1.1895674
Phase-1 RCT-8	0.7469273	0.7897985	0.61648885	0.76551284	0.6615886	0.71135217	0.9584764	0.62764875	0.81105259	0.7372578	0.8287222

Table 28

Phase-1 RCT-168	0.9633163	1.0580569	1.3160982	0.8709101	0.9424903	1.0057173	0.88576746	0.8356137	0.7324105	0.808246	0.8856127	0.7070384
Phase-1 RCT-168	0.8410778	0.89957835	0.7897615	1.0629405	0.8164393	1.0688851	0.82020115	0.7139246	0.95186706	0.8026439	0.8254275	0.8373817
Bozai-alarine synthase	1.1550228	0.76965460	0.7395685	1.0231889	1.3381084	0.87869786	1.6918533	1.0200303	0.9018006	1.0281662	0.8396812	0.8396812
Phase-1 RCT-206	0.8661627	0.7460203	0.8728151	0.8784101	0.8266334	0.6304385	0.51189524	0.51189524	0.719744	0.9032842	0.7253511	0.7253511
Carbonic anhydrase III	0.8394085	0.7661759	0.73521274	0.9720505	0.48813583	0.41170707	0.6849898	0.8302821	0.9307031	1.0554177	0.59850454	0.59850454
Phase-1 RCT-281	0.79555684	0.8378552	0.88711513	0.9241876	0.90899094	0.8540984	0.80080816	0.80651285	0.77719104	1.0751426	1.034983	1.0876849
Carbonic anhydrase III, sequence 2	0.8191714	0.74442303	0.6058919	0.8441896	0.837728	0.75029534	0.73197657	0.8058338	0.53278214	0.8351039	0.8351039	0.8351039
Phase-1 RCT-271	1.0047202	0.7350211	1.159231	0.95941008	0.72957715	1.1351621	0.84782504	0.7868024	0.8014087	0.8345232	1.0380788	0.8981077
HMG-CoA synthase, mitochondrial	1.2631849	1.2607628	1.1698539	0.8571288	1.1286087	0.65904446	1.1088721	0.8936873	1.1443336	1.3148078	1.4285839	1.3290648
Phase-1 RCT-189	0.957172	0.9813326	1.0627827	0.9831391	0.9504893	1.0071	1.807939	1.0391878	1.186117	0.9110143	0.8290672	0.7520858
Phase-1 RCT-40	0.8138769	0.7869445	0.7612315	0.8024294	0.6707124	0.71537936	0.65841313	0.5584173	0.75943285	0.8548462	0.8847627	0.7283569
Urinase protein 2 precursor	0.80248195	0.6290388	0.66117865	0.7644631	0.6840281	0.690207	0.86865324	0.719345	0.8293529	0.6792845	0.6941613	0.50842285
Paraoxonase 1	0.6920878	0.7282938	0.6623894	0.65409714	0.68656524	0.7200977	0.7127779	0.6538318	0.63964525	0.56396284	0.78217186	0.68933594
Phase-1 RCT-168	0.8728945	0.75037	0.8701555	0.608059	1.129586	0.8484246	0.8121429	0.8938030	0.8839675	0.74879414	0.9855386	0.63347586
Presenilin-1	0.8788618	0.59757988	0.7081309	0.89880246	0.59854707	0.7427059	0.82082194	0.8623768	0.8788489	0.33704038	0.8545338	0.54974093
Phase-1 RCT-38	0.8092122	0.7337164	0.9244515	0.9042202	1.080489	1.0620658	1.1336897	0.8666376	1.0207416	1.1934133	1.0345111	1.0345111
Phase-1 RCT-270	0.6942322	0.7076541	0.80383533	0.9905985	0.87961138	0.63904224	0.97276535	0.84358025	0.8071513	0.95243084	0.87105894	0.85987404
Transferrin	0.5051308	0.59402487	0.5808397	0.72530854	0.6873977	0.8447225	0.8205499	0.6872953	0.6551925	0.6613085	0.7890704	0.67489845
Hepatic lipase	0.9425939	0.6556935	1.6810078	0.5988204	0.723527	0.81249857	0.8973803	0.5809898	0.6124975	0.8202561	0.82671416	0.9853741
Cytochrome P450 11A1	0.8398608	0.9093833	0.6932869	1.1280893	1.022774	1.259546	0.9658779	1.210062	1.0235765	0.7251177	1.0846177	0.7975737
Phase-1 RCT-175	0.911961	0.9713865	0.7827849	0.8592288	0.82817628	0.8211879	0.7879594	0.76871517	0.80627077	0.90379137	1.0198959	0.75375384
Phase-1 RCT-117	1.647296	0.8430245	0.78524185	1.1680948	1.2766598	1.134663	1.5469552	1.1515244	0.83173796	0.5392493	0.984665	0.9070234
Phase-1 RCT-137	0.8303145	0.6740775	0.84281687	0.80377871	0.7698091	0.7708092	0.81290796	0.76663244	0.9301438	0.7138007	0.7273785	0.6069705
Melanoma-associated antigen ME491	1.0375177	1.1314773	0.8611728	0.92368	0.8712776	0.7646828	1.0579331	0.9731291	0.9015104	0.8180655	0.96078127	0.8658814
Phase-1 RCT-12	1.0551718	1.036269	1.1403162	1.0201974	1.3652276	1.084789	1.844039	1.154084	1.256103	1.1918837	1.1572877	0.89454657
Phase-1 RCT-162	0.9307958	0.7658373	0.8526723	0.7580634	0.71532017	0.8203659	0.9404895	0.8495503	0.9490785	0.7635439	0.8892117	0.7232087
14-3-3 zeta	1.2460954	1.3013403	1.2184939	0.8958373	0.8796258	0.9816141	1.0652963	1.1281042	1.1210477	1.1659557	1.2755212	1.0667768
Cytochrome P450 2C23	0.6786962	0.9534382	0.84099205	0.7774913	0.83078904	0.9844891	0.98841174	0.50156045	0.7329502	0.720462	0.81640537	0.8881204
Voltage-dependent anion channel 2 (Vdac2)	0.9571766	0.8118676	1.0084142	0.8823156	0.9405944	0.9203633	1.1216207	1.0268902	1.1734005	1.2867525	1.0648984	1.0648984
Phase-1 RCT-154	1.1245887	0.9558731	1.0509348	1.0176849	1.013118	0.99587624	2.580363	2.2507923	2.525689	0.9533181	1.0331409	0.97810316
Superoxide dismutase Mn	1.324732	1.144354	0.884015	0.89452316	0.9169552	0.88472508	1.0782919	1.0041832	1.0214748	1.1370359	1.1964532	1.02008
c-myc	1.2556384	0.8573229	0.87235314	1.5037666	1.3402379	1.3130077	1.648532	1.3558338	1.1510816	1.269491	1.0737239	1.2187063
Phase-1 RCT-188	1.2529463	1.1683028	1.0703132	1.3580027	0.9723638	0.9510534	1.1585604	1.0402103	1.065215	0.9482821	0.92854863	0.8585225
Cyclin G	1.2350241	1.2108237	1.3521165	1.4034588	1.0933255	1.55383	2.3634968	1.87699	3.7271881	1.0656669	1.0566213	1.098079
Calgranulin B5	0.87845666	1.0351458	1.0556856	1.1635747	0.8827957	1.205188	1.0774025	1.1625398	1.1411173	1.1560182	1.1688478	1.1764315
p63	1.052024	1.0942703	1.040782	1.0980415	0.8094677	0.9748472	1.1217331	1.2351357	1.1178033	0.9108433	0.8760809	1.0271506
Phase-1 RCT-205	1.0558898	1.1280379	1.2269703	1.254572	1.3340502	1.1391122	1.0193865	0.97214846	1.1119434	0.8788992	0.9332462	0.9377763
Phase-1 RCT-68	1.082211	1.0222166	1.0484298	1.0217175	0.98392847	1.0393579	1.0164388	0.89806545	0.9702362	1.2556094	1.3145684	1.1844878
Caspase 3	1.0344441	1.0907816	0.90061796	1.254838	1.1482310	1.6913065	1.0513469	1.8147318	1.2510104	1.2263354	1.3819171	1.3303808
Alpha-tubulin	1.2883369	0.9853587	1.3188455	1.0527247	1.0081174	1.0321853	1.0056692	1.1253798	1.0718098	0.9337661	0.97362814	1.1213952
Ribosomal protein L13A	0.9291038	0.8786943	0.9376202	0.7629735	0.8454066	0.73744124	1.0712136	0.9976998	0.8033388	1.3120813	1.2298342	1.1284482
IgE binding protein	0.91219157	0.8033094	0.83788115	1.0531306	1.224349	1.3156986	1.0154625	1.0802361	1.0328445	1.0843258	1.096537	1.0439243
Phase-1 RCT-39	0.8256676	0.973714	0.9036931	0.8808855	1.0840786	1.2670538	0.9811697	1.1583188	1.0183778	1.1706781	1.0454218	0.85088365
Calnexin	1.0454841	0.96250816	1.0086012	0.8766813	0.8280717	0.9322122	0.8792426	0.835503	0.94339854	0.85271233	0.830898	0.91321387
Henna oxygenase	0.85989554	0.81074623	0.7697256	1.0312041	1.0437711	1.4447311	1.0778467	0.9739502	0.81858998	1.1482412	1.2556807	0.9318275
Phase-1 RCT-241	1.2400453	1.2413434	1.2229478	1.1740458	1.0946578	0.9436349	1.0631747	1.1138122	0.96058524	1.0045639	0.920067	1.153423
Ribosomal protein S9	0.88796286	0.7876066	1.0765914	0.7437902	0.895443	0.75590146	0.7701284	0.65708905	0.77275145	1.0753275	0.8525019	0.9957287
Phase-1 RCT-258	1.0452682	1.0501314	0.8929971	1.0678148	0.8378824	0.8538871	1.1425503	0.9913303	1.0752094	1.0360308	0.8895516	1.0010142
Amplification factor	1.1025302	1.2026094	1.0731585	0.8724884	1.0322863	0.7849556	1.1032843	0.80426174	1.0600874	1.1295489	1.135157	0.86693156
Phase-1 RCT-180	0.8348789	1.0220557	1.3431021	0.87028843	1.0285927	0.8921867	1.280446	1.0138234	0.8948893	1.0824504	1.087474	1.0474179
Multidrug resistant protein-1	0.8338811	1.1427753	0.7923598	0.88922524	1.0112668	0.8697438	1.062138	1.650849	2.2784832	1.3464178	1.2392595	1.3891288
Ornithine decarboxylase	1.6540781	1.1279552	1.598424	1.315074	1.0169186	1.0698697	1.1511778	1.428934	1.3840773	1.9487185	1.8489518	1.7758799
Thymosin beta-10	0.9876697	0.86301243	0.9579352	0.8398603	0.8605448	0.8398603	1.0478573	1.0547783	0.90789844	1.0283252	1.0723438	1.0575863
Phase-1 RCT-72	0.9478011	0.89276537	1.013151	1.202419	1.0748412	1.5916219	1.077461	1.3980848	1.0483258	1.1065431	1.187025	1.0982953
Phase-1 RCT-109	0.9298786	0.9429688	1.0163127	0.668204	0.83337446	0.7531665	1.0760506	0.93743914	0.8456841	1.1642103	1.2189075	1.030518
Phase-1 RCT-76	0.9742061	0.98414826	1.129754	0.7734622	0.9072126	0.8339414	1.0773544	1.0654478	0.89223876	1.1784301	0.878372	0.85533854
Vacuole membrane protein 1	0.8552263	0.8792168	0.93290854	0.809522	0.7116318	0.80018735	0.81278804	0.7311044	0.85864568	0.7116075	0.76502205	0.5802388

Table 20

Phase-1 RCT-158	1.1376593	1.1406988	1.0376422	1.2717211	1.0704782	1.193718	1.0613844	1.2350298	1.2148458	1.129102	1.0617951	1.2428529
Phase-1 RCT-113	1.2041135	1.1899887	1.08335	0.8808846	0.87537503	0.822413	0.8948914	1.1273192	1.1128211	1.1198587	0.90921338	1.1315854
Endogenous retroviral sequence, 5' and 3' LTR	0.90260875	1.1204435	0.9442034	0.92982294	0.87217214	0.8393259	0.89506456	0.9160741	1.2891484	1.5841322	1.2860659	0.95238554
Beta-actin	1.1125833	1.0069311	1.080633	0.64210916	0.7735134	1.0292419	1.0695548	0.96721186	0.918635	3.0672285	2.4768662	2.7791693
Phase-1 RCT-65	1.1814723	1.3948184	1.0991114	1.1430958	1.4769107	1.6424018	1.2501326	1.378758	1.3046962	1.5337906	1.5226178	1.3918132
MHC class I antigen RT1A1(1) alpha-chain	1.8905007	1.8941407	1.5426627	1.4040811	1.6920763	1.944825	1.619809	1.5000522	1.6659871	1.4504158	1.4433015	1.2889323
Bax (alpha)	1.2416824	1.1744834	1.2701218	1.2928851	1.1418582	0.908128	1.3201531	1.8742516	2.4587035	1.295488	1.1407483	1.307053
Carbonyl reductase	1.1863863	1.2043815	1.2609972	1.4120785	1.0944185	1.1135831	1.0254887	1.421894	1.1156356	1.120373	0.91378915	1.2524985
Beta-actin, sequence 2	1.0014653	0.97430295	0.9769427	0.8745844	0.926052	1.1551862	1.2245715	1.1224312	1.066517	1.1413021	1.0439515	0.8896563
Interleukin-10	1.1216725	1.254464	1.3284883	1.1384859	1.1012089	1.0793688	1.1377833	1.4719772	1.2667561	1.1464108	0.9852316	1.1684549
Phase-1 RCT-191	1.589339	1.4355308	1.5240887	1.0897073	1.4454872	0.8717898	1.1388346	0.9875454	1.1399181	1.2238359	1.1713823	1.0227512
Phase-1 RCT-111	0.7822171	0.85418008	1.0452079	0.7785297	0.9978218	0.83935584	1.0599357	1.0135723	1.0650833	1.1545427	0.8922022	0.8688597
Apoptosis-regulating basic protein	0.7759487	0.780832	0.81873508	0.7204684	0.8217704	0.6724481	0.777307	0.9490623	0.73910743	0.77465347	0.9720474	0.55588776
Glutathione peroxidase	0.6769063	0.65703404	0.785112	0.9431503	1.16392	0.7008514	1.1611571	0.86370873	1.1224937	0.8740384	0.81503534	0.8128363
Phase-1 RCT-239	1.1426587	1.1938224	1.1353062	1.0183517	1.4855719	1.4244561	1.1483557	1.1877072	1.2254288	1.2677662	1.342256	1.3076787
Phase-1 RCT-47	1.0183092	1.1001234	1.0334472	1.168928	1.3054965	1.1444077	1.0318359	1.0215669	1.0574984	1.0352181	1.0410132	1.0275089
Tryptophan hydroxylase	0.8329787	0.79403496	0.8708495	1.0702983	1.054845	1.1008468	0.9113026	0.9118482	0.82741314	1.087523	0.9589205	1.0685134
Sulfotransferase K2	0.873593	1.0470493	0.5689403	0.8620535	0.79965055	0.8406289	1.0241911	0.65814805	0.550812	0.9945949	0.9977684	1.1242839
Calgranulin B9	0.8102092	0.96909157	0.9462308	1.0785139	0.87471005	1.0081853	0.92071955	0.8544689	0.8532657	0.88002948	0.8722868	0.8165182
Phase-1 RCT-123	1.0235242	0.9633438	0.9743514	1.0897803	1.004225	1.1684424	0.8646892	0.91046908	1.0328788	1.0294488	1.0414743	1.094004
Phase-1 RCT-98	0.99894186	1.0233536	1.0638278	1.0454515	1.1628534	1.2445619	0.9861634	0.9124932	0.9528502	0.94149585	0.91012484	0.94614905
Anusporin-3 (ACP3)	0.89344945	0.8692567	0.96432086	1.0991408	1.0933518	1.2539715	0.98049454	0.9794897	1.0508864	1.0339056	1.0653377	1.0737449
Shenyl-CoA decarboxylase, liver	0.8583053	0.16332972	2.223468	0.5809913	0.727225	1.687965	1.1672907	0.8880083	0.8584339	0.6930768	0.61713878	0.5143562
Phase-1 RCT-64	1.1572549	1.1005623	1.5703352	0.9767823	1.1150168	1.1452895	0.74567028	0.82643104	0.58391833	1.2032949	1.1845014	1.2557415
(1) Gene expression data for 24 hour timepoint are presented as mean ratio of treatment/control for all 24 hour predictive genes (Table 5).												
(2) Compound and dose abbreviations as in Table 1.												
(3) Individual animal number												
(4) Liver inflammation classification for compound-dose group at 72 hr: yes=ncr, necrosis observed; yes-both, necrosis with inflammation observed; no, no histopathology observed												
(5) Predictive gene (as in Table 5 and as included in Table 2b)												

Table 2b

Table 29. Expression Data for 24 Hour

[illegible]

Phase-1 RCT-49	0.84219847	1.094226	2.166884	0.75395864	0.92050048	1.2418224	0.890286	0.9240159	0.9265115	1.0464159	0.90355814	0.8942488
Calgranulin B3	1.166662	1.8070114	2.1341743	0.82020403	1.0209827	1.0202234	0.956528	1.1032516	0.9822274	1.1935297	1.0586398	1.0586398
NAAD-dependent isocitrate dehydrogenase, cytosolic	0.8227579	0.6022169	0.555531	1.1111801	0.9364963	0.8681596	1.1805204	1.330749	1.0657997	0.9547064	0.8089195	0.8089195
Octamer binding protein 1	1.0179598	0.9920271	0.735401	1.1806677	1.0778073	0.96051615	1.0221442	1.010579	1.0338701	1.0150313	0.9855217	1.1808434
Sodium/bile acid cotransporter	0.7684667	0.580177	0.5878853	0.9933712	0.91316587	0.84997523	0.7477124	0.9879446	0.84497523	0.7477124	0.9879446	1.0390545
Phase-1 RCT-174	0.76111845	0.7581213	0.5533995	0.9407281	1.051865	0.87476447	0.9407281	0.9407281	0.9407281	0.9407281	0.9407281	0.9407281
Phase-1 RCT-77	0.7503459	0.7911517	0.4791837	0.9805824	1.0891204	0.7034306	0.8888643	0.831947	0.7034306	0.8888643	0.831947	1.1470879
Inositol polyphosphate multikinase [pmk]4	0.49373773	0.403959346	0.38857898	1.2118464	1.2089987	0.8434306	0.9359182	0.9829549	0.7684022	0.95704334	0.9407848	0.9120589
Phase-1 RCT-256	0.7770574	0.61844707	0.3347252	0.9810751	0.8932986	1.0844793	0.9687098	0.89593657	0.9687098	1.0142882	0.8726566	0.8726566
Equilibrium nitrobenzylthioinosine-sensitive nucleoside transporter	0.6654703	0.39645444	0.2583559	0.9590571	0.98968345	0.713909	1.1697053	0.8976288	0.89304844	0.78163514	0.9292593	1.1117777
CDK102	0.9067937	0.86421376	0.7528711	1.1537626	0.9561138	0.9013158	0.8252549	0.8577643	0.9738338	0.83680417	1.0483386	0.8947433
Phase-1 RCT-209	0.85024416	0.7332979	0.5971278	1.1338282	1.0583161	1.092144	0.8323238	1.1122012	1.0123931	1.037422	1.069855	0.98814645
NAAD-cytochrome b5 reductase	0.76216596	0.63331974	0.58789468	0.8211148	0.8156222	0.74594576	0.7848798	0.84192016	0.84055287	1.1223849	1.426883	0.84289235
Dynamin-1 (D100)	0.8585761	0.78081645	0.42082837	1.169634	1.1217867	1.0587527	1.0252057	0.8898	0.9371175	1.021319	1.1168324	0.8928621
Senescence marker protein-30	0.40954465	0.2444617	0.0828133	1.3176931	0.9055986	0.83591	1.0521354	0.8232563	1.1342849	0.22490759	0.37810153	0.31163177
Phase-1 RCT-89	0.8349818	0.670441	0.33458933	1.1420949	0.8508865	0.93144006	1.177015	1.0687709	1.0850333	0.8057168	1.160888	1.0576782
Canine palmitoyl-CoA transferase	0.89609428	1.4208582	1.1766206	1.0029381	1.223678	1.1327269	0.9759621	0.9801424	1.031357	1.2826309	1.1620997	1.4358013
Alpha-2-microglobulin	0.7206568	0.5284509	0.26311472	0.78797835	0.9774913	0.4419232	0.8103369	0.54135966	0.544737	1.2826164	0.5158583	0.22284019
Acylprotein CII	0.70201623	0.7529576	0.46395576	1.032559	1.2722049	1.0857452	0.914662	0.90213	0.8632187	0.5120905	0.7841302	0.51784796
Carthagen L, sequences 2	1.074807	1.338568	1.4737027	1.3028445	1.0383123	0.9416842	1.1328342	1.1679002	1.1673083	1.1145178	1.1013969	1.7933372
Phase-1 RCT-141	1.2352824	0.9157325	0.2936325	1.7906849	1.7655844	1.4077353	3.1209016	1.8948674	1.8532765	1.392757	1.7617538	2.1302772
Phase-1 RCT-289	0.777935	0.7144684	0.4531896	1.1787394	1.0655462	0.9373429	1.0272236	0.86128765	0.9218545	0.7427473	0.93818635	0.7081744
Endothelin-1	1.0576122	0.9178735	1.0897173	0.9496148	1.0423923	1.2456393	0.9424412	0.88252434	0.978081	0.8983858	0.88828895	0.84649503
Phase-1 RCT-282	1.0629691	0.98475473	1.1614578	0.8068867	1.0087091	0.9752257	0.9550185	1.038217	0.87847943	1.2260117	0.8707087	1.0986071
Phase-1 RCT-140	1.0858484	1.0923316	1.1570865	0.8878906	0.98020715	0.97489405	0.92928284	0.90616024	1.0552277	1.104457	1.0981885	0.85294434
Phase-1 RCT-287	0.64828155	0.5859362	0.9603462	0.9327792	1.0873454	0.9002315	0.7832171	0.8818784	0.8651854	0.9132339	0.8580039	0.915401904
Phase-1 RCT-287	0.9263965	0.9105778	0.6250068	1.1243967	1.0202413	0.9766877	1.1681348	1.0110783	1.0009038	0.9162077	1.033396	1.0631964
Phase-1 RCT-281	0.87205687	0.7144598	0.78147696	1.14422	0.871383	0.9376603	0.8682633	1.0928764	1.1466554	0.8431336	0.75755215	0.5638483
Retinol-binding protein (RBP)	0.95011175	1.1611886	0.74046874	1.0332462	1.2397898	0.84526354	0.9539542	1.00428	0.9788228	0.9303708	1.3381288	1.0885001
ATP-estimated glucocorticoid-receptor	0.7426558	0.8263415	0.5014418	1.1547348	0.9011321	0.91859256	1.1436354	1.0740182	0.98813816	0.8014372	0.88725024	0.72278017
trans-ocallin monomer (Gyk)	1.056609	1.5943555	2.4880745	0.7949322	0.9441071	1.1333096	1.0417559	0.9283801	1.009548	1.1459387	1.020537	1.5423852
Phase-1 RCT-60	1.0151789	0.9959	1.828559	1.0258922	0.83204457	0.9898268	1.0089598	1.0481496	1.0201097	1.3594375	1.0729209	1.2578149
Pyruvate kinase, muscle	1.1032878	1.4784549	2.2469057	0.8656605	0.9582166	1.0811801	0.94116183	0.98249346	0.9503574	1.1913778	1.0059475	1.167444
PAR Interacting protein	1.1852125	1.6278102	1.5158077	1.502217	1.3752702	1.1748644	1.5727006	1.4162894	1.4557424	1.0615329	1.3283691	1.4231829
Nucleoside diphosphate kinase beta isoform	1.1502702	1.2340784	2.2302	1.0942502	1.0874458	1.1202632	1.2809528	1.1410224	1.1594694	1.055819	0.8069458	1.0802016
Gadd153	1.5541166	1.8837394	3.7658872	1.2115332	1.93881	0.9828047	1.1707132	1.0162472	0.9028802	0.90603876	1.1553987	1.0494683
Insulin-like growth factor binding protein 1	1.1818	1.0837729	0.9020259	0.9286083	1.0100199	0.92183394	1.1451765	1.0243174	1.0140023	1.2371001	1.1112157	1.2343593
c-H-ras	0.591341	0.2920545	0.17752759	0.9899004	1.0606474	0.8711633	1.3331665	0.9139637	0.9822501	0.5787132	0.9697285	1.162436
N-hydroxy-2-acetylaminofluorene sulfoxidase (STIC-1)	0.46384344	0.31413427	0.30732483	1.1004856	0.93298534	0.8887243	1.0467755	0.9959533	0.99890684	1.5028605	1.4712092	1.8630989
Phase-1 RCT-52	0.4712479	0.46939865	0.2941065	0.854951	0.8433674	0.64286124	0.6523874	0.7239008	0.74384224	0.65271664	1.0028344	0.6043494
Alpha 1 - inhibitor III	0.95045644	1.0124365	0.6508823	1.2924821	0.9774518	0.85227354	1.5759382	1.1984808	1.141301	0.5555797	0.8608423	0.9328834
Steady carrier protein 2	0.7554135	0.58161473	0.5400983	1.1087461	0.98051683	0.94880786	0.8955594	0.90925777	0.8780937	0.50532836	0.78048545	0.751959
Organic anion transporter 3	0.71294475	0.7249254	0.43257424	0.86276873	1.0128975	1.0103006	1.1333899	1.1462992	1.0020114	0.828956	0.7476181	0.6585489
Calgranulin B4	0.64892598	0.55284573	0.3135115	1.0325558	0.8200584	0.72851035	0.7444952	0.82067613	1.056177	0.9856007	1.1396047	1.2028912
Phase-1 RCT-182	0.75011414	0.5714492	0.3641312	1.0356214	1.0410069	0.81692606	0.8332285	0.87372725	1.0838338	1.180438	1.3036721	1.2147464
Calgranulin B8	0.91913486	0.9006553	0.80218287	1.1384961	1.067388	1.0980048	1.2100272	1.0428069	1.0223754	0.9299008	1.1590098	0.78107484
Aldehyde dehydrogenase, microsomal	0.684723	0.23690524	0.80218287	1.1384961	1.067388	1.0980048	1.2100272	1.0428069	1.0223754	0.9299008	1.1590098	0.78107484
Phase-1 RCT-128	0.74584305	0.684723	0.23690524	1.1384961	1.067388	1.0980048	1.2100272	1.0428069	1.0223754	0.9299008	1.1590098	0.78107484
Phase-1 RCT-102	0.4833712	0.3991945	0.273727	0.92280283	0.823918	1.0242356	0.76504078	0.78112763	0.93095475	0.5531166	0.5857912	0.3589506
Preproalbumin, sequence 2	0.6165477	0.6097242	0.4759403	1.0539278	1.039207	0.8484081	1.0114078	0.8600889	0.83871025	0.5814717	0.8685809	0.52739945
Apolipoprotein AII	0.578894	0.4150256	0.314364	1.2452655	1.0405842	0.9107843	1.0317445	0.9083088	0.72063537	0.9821312	0.8595354	0.5149485
Phase-1 RCT-10	0.935245	0.85433865	0.5223651	1.154157	0.9539829	0.9539829	0.9539829	1.0281371	1.1218228	0.70145226	1.1218228	0.65780586
Phase-1 RCT-48	1.1263044	0.67618914	0.5881342	1.3473283	1.2139255	1.2273251	1.0750862	1.0059923	0.9523583	1.2105987	1.163368	0.8602574
Phase-1 RCT-8	0.6599021	0.6781989	0.53093314	1.003852	1.1344648	0.8925677	1.037696	0.8010858	0.78663166	0.68281883	0.9887927	0.5855002

Phase-1 RCT-188	0.80544215	0.740045	0.4710133	0.87833985	0.8311132	1.0053369	1.0414331	0.9554883	1.0007696	1.0402021	0.7692035	0.87692816
Phase-1 RCT-189	0.5934322	0.68914455	0.4013782	0.8001355	1.04734	0.88347093	1.0040814	1.399429	0.9640947	0.83360577	0.86021245	0.9469894
Beta-alanine synthase	0.7792086	0.73912287	0.3320991	0.7681522	1.1783565	1.2033597	1.5805954	1.507472	1.1430987	0.7614476	1.0461049	0.85303134
Phase-1 RCT-206	0.40874118	0.22145048	0.34696293	0.8592014	0.7299408	0.87318124	0.55599268	1.161837	0.7357143	0.9135502	0.6976052	0.71686174
Carbonic anhydrase III	0.3307657	0.12657292	0.04925316	0.0996143	1.4797468	0.65313475	2.4642726	0.91535839	0.8614183	0.47545522	1.3172245	0.7998987
Phase-1 RCT-291	0.8483954	0.6018836	0.3593634	0.8476734	0.876734	0.60760655	0.7205252	0.86978155	0.87613577	0.915373	0.9752654	0.9842117
Carbonic anhydrase III, sequence 2	0.5223809	0.6747151	0.2878912	0.9760317	1.0104692	0.6901264	1.0061873	0.8956681	0.48209032	0.7854421	0.73099154	
Phase-1 RCT-271	0.760979	0.6118077	0.5952281	1.0119114	1.2025958	1.1249231	1.0986185	0.90503794	0.88000448	1.285322	0.7854421	0.73099154
HMG-CoA synthase, mitochondrial	1.3483944	1.5729399	0.38400613	0.8605576	0.8127988	0.87165356	0.69283525	0.87088354	0.8655378	1.285322	1.6049888	0.7109662
Phase-1 RCT-189	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Urinary protein 2 precursor	0.5223417	0.49066478	0.18570831	1.4203913	1.2955924	0.9068026	1.623139	1.14930226	1.14930226	1.0016414	1.4191339	1.5243431
Paraoxonase 1	0.52918513	0.42682978	0.38552403	1.0735302	0.9748346	0.71530086	0.5801933	0.8143748	0.7854477	0.4736557	0.7183938	0.69994414
Liver fatty acid binding protein	0.4243076	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-189	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-40	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
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Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
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Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
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Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
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Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
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Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.37658307	1.0289422	1.0779145	1.0450487	1.3901923	1.0421152	1.2881481	0.6534645	1.4160204	0.9413592
Phase-1 RCT-117	0.7273161	0.612156	0.376									

Phase-1 RCT-156	1.1509149	0.8988357	5.7372684	0.78401985	0.94041814	1.2141889	0.9017363	0.8752735	0.88783624	1.0464157	0.9725178	0.98375803
Phase-1 RCT-113	1.0030731	0.9553906	1.085398	0.7687303	0.86591506	1.0889828	0.80213954	0.9959237	1.1581231	1.1273117	1.3453948	1.3078744
Endogenous retroviral sequence, 5' and 3'	1.113703	1.1120529	1.6476983	0.9984521	0.8815626	0.8822105	1.0136741	0.589122	1.0823427	0.7626257	0.95809244	0.8334852
LTR												
Beta-actin	3.5981053	2.6481983	9.479847	0.874977	0.75951816	0.8457706	0.832542	0.7940342	0.8287778	0.8458925	1.1258684	0.8400922
Phase-1 RCT-65	1.4880252	1.382388	1.7829182	0.84955285	1.0112531	1.0233538	0.9172255	1.0764174	1.0599196	2.0863486	1.8928691	1.8259807
MHC class I antigen RT1A10 alpha-chain	2.1031258	1.764885	2.450382	1.0174537	1.239028	1.110735	1.1624255	1.4728005	1.2571802	1.8084649	1.8132389	1.5140027
Bax (alpha)	1.2847227	1.3087766	1.620344	0.9552065	0.94724494	1.0461248	1.0295255	1.037648	1.0487188	1.4329258	1.0629381	1.1881137
Carbonic dehydratase	1.2182208	1.1435828	1.9515422	0.87959135	1.0405794	1.1686231	0.88612187	0.93127068	1.0360234	0.82655825	0.74112225	0.8881411
Beta-actin, sequence 2	1.3000535	0.9411416	1.5939838	0.89351854	1.0175153	0.9491605	1.1273112	0.92457116	0.9867185	0.77316848	0.95539856	0.81785006
Interleukin-10	1.2573122	1.2583014	1.15543	0.8347528	0.9072267	1.0816845	0.9555349	1.0286389	1.0087113	1.1107692	1.0951288	1.0568814
Phase-1 RCT-191	1.4874156	1.4978594	2.5144691	0.79182127	0.944108	1.0833651	0.9738737	1.061395	0.97739047	1.577658	1.4074147	1.3583995
Phase-1 RCT-111	0.9628382	0.7488058	0.891614	0.7867344	0.7501912	0.8048188	0.8289749	0.9092138	0.897782	0.7876749	0.8444158	0.77815153
Apoptosis-regulating basic protein	0.84955945	0.80177714	0.54049224	1.2739198	1.0282126	0.9882778	1.2405902	0.9525243	0.91634444	0.9032715	0.8886081	0.81751153
Glutathione peroxidase	0.31487553	0.28059127	0.2105958	1.2322102	0.93936074	0.900976	0.8100338	0.9867832	0.8913283	0.8166822	0.8085324	0.7700366
Phase-1 RCT-239	1.2478604	1.3921679	0.6524428	0.74062747	0.8298853	0.8892142	0.82507675	0.9007315	0.8758945	1.47695	1.247861	1.1122837
Phase-1 RCT-67	0.95358756	0.9091871	0.88785267	0.64906317	0.884122	1.1861698	0.9203821	0.80370715	0.80824243	1.0524002	0.88758018	0.9013942
Typical hydrolase	0.98965384	0.9833652	0.811556	1.2817593	1.0104786	0.7435482	1.5841359	1.2132279	1.1150203	0.9023698	0.9783978	1.0072401
Suitorferase K2	0.7919286	0.9044316	0.8876215	1.1816319	1.0821085	1.2328321	1.8872883	1.3223262	0.93997043	1.2591074	1.5118801	1.3554289
Calgranulin B9	1.1137381	0.6265162	0.4298531	0.9177358	0.9157032	0.8701664	0.8300704	0.9173915	1.0094985	1.147391	1.2343883	1.078247
Phase-1 RCT-123	0.9078658	0.9830165	0.8336534	0.94863595	0.88376737	1.1888034	0.9520908	1.0188792	1.0053528	1.0742905	0.8978288	1.0744553
Phase-1 RCT-88	0.8883712	0.78359263	0.699142	0.8903397	0.8871131	1.1215242	0.778555	0.93314016	0.94394383	1.1101488	0.8959257	1.0466758
Aquaporin-3 (AQP3)	0.97605926	0.7777109	0.84368026	0.8871131	0.8871131	1.1215242	0.778555	0.93314016	0.94394383	1.1101488	0.8959257	1.0466758
Succinyl-CoA desaturase, liver	0.10846323	0.101871716	0.087612566	0.34185332	0.79246926	0.89108914	0.5460668	0.36864343	0.27756888	0.67888178	0.4072803	0.51753175
Phase-1 RCT-84	0.9507219	0.7692822	0.6487181	0.8628661	0.8468048	0.9795103	0.8822889	0.9942345	0.95445174	1.6802808	1.0780371	1.216889
(1) Gene expression data for 24 hour												
timepoint are presented as mean ratio of												
treatment/control for all 24 hour predictive												
genes (Table 5).												
(2) Compound and dose abbreviations as in												
Table 1.												
(3) Individual animal number												
(4) Liver inflammation classification for												
compound-dose group at 72 h; yes: necr.												
necrosis observed; yes-both; necrosis with												
inflammation observed; no, no histopathology												
observed												
(5) Predictive gene (as in Table 5 and as												
included in Table 2b)												

Table 29

Table 28. Expression Data for 24 Hour Timepoint (1)													
Compound-Dose (2)	1834	1835	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845	1846
Animal Number (3)	1834	1835	1836	1837	1838	1839	1840	1841	1842	1843	1844	1845	1846
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)													
Gamma-actin, cytoplasmic	3.7113097	2.4105983	2.9586164	1.1211765	1.0631752	0.8050484	1.3450783	0.8904965	0.9162587	0.93473125	1.012718	0.83510315	1.397174
Phase-1 RCT-145	2.322422	1.7600894	2.3341157	0.9507642	1.0180053	0.9969863	0.9651043	1.0086558	1.2072213	1.012287	0.97658443	1.070357	0.9624114
Cadherin-1	1.3841097	1.3468942	0.9782565	1.1860335	0.9868724	0.9174147	1.0454173	1.0248128	1.0248128	1.3675758	1.6485288	0.8358588	1.043434
Phase-1 RCT-78	0.8966337	0.76912	0.5239505	0.92924505	1.005316	0.9592632	1.1146816	0.912898	1.0248128	0.988552	0.8693752	0.8357989	1.064394
Fas antigen	1.386451	2.911445	1.3099786	0.881465	0.7583471	0.8883235	0.964722	0.9228005	1.0511218	1.02494	0.9524623	0.9062307	1.560765
Macrophage inflammatory protein-2 alpha	2.8079555	1.9557178	1.402867	0.926639	1.0333728	0.96840516	0.83152046	0.8780421	0.88473287	1.125653	1.0495108	0.7755873	0.98536943
Inflammasome beta1	1.2075762	1.4129983	1.0813729	1.2103368	1.266248	1.0635471	1.0180023	0.94028527	1.0833167	1.6090201	1.0377718	0.8662543	1.1605984
Phase-1 RCT-207	3.581343	2.201169	2.083282	0.9522653	1.0246407	1.0891697	1.0180023	0.94028527	1.0833167	1.6090201	1.0377718	0.8662543	1.1605984
Aspartate aminotransferase, mitochondrial	0.6679357	0.85714825	0.59875878	0.9008234	1.0658902	0.83298105	0.92165065	0.9498578	0.8571933	0.8577718	0.801244	0.9553006	0.7654983
Casparin-alpha	0.763053	0.7369393	0.8849818	0.8725127	1.0184483	0.60180175	1.021687	0.8933078	0.9501645	0.7044028	0.990145	1.5376316	0.871053
MAP kinase kinase	0.46583247	1.0604983	1.1813573	1.2113084	1.1206623	0.9058985	1.0205336	0.974448	0.9585536	1.0627325	1.1168005	1.2574905	0.7237341
Hepatocyte growth factor receptor	0.84783785	1.0738868	1.006297	0.8081174	0.7075378	0.91780746	0.86802345	1.0451504	0.9585536	1.0183761	1.1273617	0.979103	1.0256671
MAP kinase kinase	0.8775978	1.060353	0.7803983	0.962752	0.8489384	1.0288925	1.0075188	1.0682081	1.0474654	0.9330222	1.0700102	0.9289074	1.108698
Sodium/glucose cotransporter 1	1.1213756	1.1740056	1.3467734	1.1788038	1.478218	1.1438338	0.8662246	0.7570927	0.8052023	0.9025522	1.0749507	1.3507537	0.8408135
Phase-1 RCT-27	0.6356455	0.6028852	0.3920743	1.8331004	0.6129292	0.7212883	0.8662246	0.7570927	0.8052023	0.9025522	1.0749507	1.3507537	0.8408135
Phase-1 RCT-50	2.0424013	1.8918456	1.4971058	0.9201075	0.8500708	1.1421466	0.82215955	0.91657495	0.9012362	0.8390487	1.004074	0.9265658	0.755572
Phase-1 RCT-288	2.3653833	0.7402613	2.067914	1.0858828	1.020282	1.0567778	1.0074214	1.0741752	1.281383	0.8390487	1.004074	0.9265658	0.755572
Phase-1 RCT-37	0.5177948	0.8436233	0.4978931	1.2287514	1.0697432	1.2011045	0.9788338	0.9481354	0.9404604	1.046763	0.7521556	0.8453284	1.4245571
Organic cation transporter 3	1.1841115	1.2056628	1.2829539	1.0380094	1.1062013	1.0264148	0.9733903	0.9841764	1.2106717	1.0882638	0.93884504	1.378498	0.9750233
60S ribosomal protein L6	1.286381	1.355899	1.4426008	1.001665	1.1819894	1.0736699	0.9742058	1.0113645	1.215718	1.2792233	0.9607087	1.543846	0.8910155
Zinc finger protein	3.7833471	2.9543152	1.7147254	0.9693109	1.2185758	0.9684788	1.0068454	0.9700281	1.0248128	1.3375161	0.98218757	1.1774285	1.2937964
Calgranulin B2	0.78338003	1.2339745	0.8894585	0.9522667	0.8416591	1.0294785	1.0393023	1.052908	1.194537	0.9827796	1.2406431	1.1438094	0.9514073
ID-1	1.6034024	1.0884336	1.5095127	0.9394354	0.9273287	0.9904381	0.89076453	1.107624	1.1194537	0.9827796	1.2406431	1.1438094	0.9514073
Phase-1 RCT-42	0.39819088	0.38282876	0.5293839	1.1732237	1.428317	0.87151987	1.0870357	0.9555517	1.0321228	0.785619	0.8940818	1.0910438	1.074838
Phase-1 RCT-116	0.47178745	0.8337083	1.1693022	1.2332303	1.1038815	1.0246997	1.3069142	1.3284292	1.2325181	1.5234137	1.0414155	0.8853224	1.3978662
Malin F/G	1.697515	1.1693022	1.4484042	1.2332303	1.1038815	1.0246997	1.3069142	1.3284292	1.2325181	1.5234137	1.0414155	0.8853224	1.3978662
Multi. homologue (MLH1)	0.7169253	1.1416415	1.1471843	0.8363734	0.96988523	1.037221553	1.028735	0.9745414	0.9661398	0.9784181	1.0472835	0.8545436	0.7135748
Sorbitol dehydrogenase	0.98891145	0.77759239	0.8647124	1.0761717	0.8390688	1.0883153	1.1257168	1.1545858	1.5071628	1.318938	1.0872784	1.2213736	0.9258748
Phase-1 RCT-24	1.1920924	0.6039197	1.2893654	1.42742	0.0359863	0.8405645	0.9584715	1.1014592	1.0286402	0.7814168	1.0145288	0.8615867	1.4541761
Phase-1 RCT-1	1.5881757	1.3432547	1.9534757	1.003474	0.8598739	0.79419285	1.0539413	1.0848795	1.0589228	0.912872	0.93206783	1.167344	1.2589861
Elongation factor-1 alpha	2.0919669	2.057847	1.3752365	1.0909597	1.1157644	1.2458987	1.3338935	1.313477	1.2803754	1.6322963	1.0348657	1.1669741	1.2589861
L-glutono-gamma-actone oxidase	0.39251924	0.3398565	0.28900197	1.2729362	1.1302453	0.9740832	1.2142392	0.8971235	1.1911883	0.826028	0.8453579	0.9376368	1.2076888
Phase-1 RCT-33	0.54629153	0.3388092	0.52406645	1.3416235	1.0231903	0.8933977	1.0216835	1.0051633	0.88330724	0.8595636	1.0712705	0.7715727	1.2288893
c-Jun	1.1384608	1.2323588	1.3022552	0.92048634	0.7828034	1.1116837	1.2109332	1.1467885	0.960893	0.77934116	0.7190465	1.0800395	1.1161383
Phase-1 RCT-233	0.8258116	0.42523825	0.6088586	1.0338576	1.2484821	0.9156223	0.99140603	0.8880046	0.8883501	0.8844469	0.9325002	0.9857375	0.9250174
Phase-1 RCT-39	0.8427327	0.7448815	0.9063669	1.2328769	0.9993059	0.9156223	0.99140603	0.8880046	0.8883501	0.8844469	0.9325002	0.9857375	0.9250174
Phase-1 RCT-242	2.7421343	2.072074	1.7595724	1.0027984	0.9066016	0.8667831	1.0487007	0.79753008	0.82891074	0.9444003	0.9053437	1.007073	0.901138
Phase-1 RCT-181	0.8533324	0.8594187	0.7284623	1.0027984	0.9066016	0.8667831	1.0487007	0.79753008	0.82891074	0.9444003	0.9053437	1.007073	0.901138
Phase-1 RCT-185	0.76924827	0.8287317	0.7280609	1.1136601	1.0350257	0.950257	0.82891074	0.9444003	0.9053437	1.007073	0.901138	0.9257552	1.3701688
Phase-1 RCT-178	3.400019	2.9833642	2.2101239	1.0832827	1.0011777	0.9703275	0.9703275	0.9703275	0.9703275	1.292201	0.98297863	1.3701688	0.93817294
Phase-1 RCT-144	1.9008697	1.1077825	1.7616754	0.99121876	0.9988046	1.2946097	0.99121876	0.99121876	0.99121876	1.2946097	0.99121876	0.99121876	1.2946097
ILK-a	1.8040739	1.5882152	1.7455848	0.9988046	0.9988046	1.2946097	0.99121876	0.99121876	0.99121876	1.2946097	0.99121876	0.99121876	1.2946097
Phase-1 RCT-225	1.4242824	0.8452123	1.1050589	0.75032534	0.7818337	0.9703275	0.9703275	0.9703275	0.9703275	1.2946097	0.99121876	0.99121876	1.2946097
60S ribosomal protein L6 (alternate clone 1)	2.437476	2.1404087	1.1675287	1.0800574	1.1385733	1.1919546	1.4806606	1.370171	0.9888895	1.2543863	1.3254699	1.3254699	1.3254699
Beta-actin, class I	1.6286935	0.708052	1.450414	1.0390594	1.0174048	0.73052526	1.2538584	1.2848592	1.6821	0.7728321	1.2201084	1.1359899	1.6033566
Multidrug resistant protein-2	2.8270404	1.8721441	2.0098054	0.92827585	0.7826945	1.0884764	0.9789383	1.3038892	1.1755364	1.8075417	1.4280768	0.9500386	1.1236757

Table 29

Phase-1 RCT-49	1.4148855	0.7748877	1	0.9541073	1.0696465	0.8911991	0.8915003	0.9885268	0.935126	0.9552386	0.90540725	0.92585764	0.8324286
Calgranulin B3	1.1856916	1.1017321	1.0299844	0.96436717	1.0451869	1.0551181	0.8915003	1.0430176	1.2194318	1.0387198	0.97562313	1.1261885	1.1261885
NADP-dependent isocitrate dehydrogenase, cytosolic	1.0652645	0.9635735	0.7178788	0.9177998	1.0599978	1.0450184	0.96819365	0.94463166	1.0027916	1.0304714	0.8995893	1.1319777	0.85533844
Oxysteroid-binding protein 1	0.78040384	1.2553581	0.87845575	1.0177008	1.1328458	0.9843076	0.92313564	1.0080582	1.0049868	0.944085	1.0001909	1.098728	1.0704346
Sodium/bile acid cotransporter	0.35449892	0.5923152	0.42051202	1.153714	1.1635611	0.8817844	0.982746	0.8438162	1.0652164	1.7685418	1.3887147	1.7875744	0.8062378
Phase-1 RCT-174	0.8953883	0.8128976	1.1836231	1.0394466	1.2327828	1.0393366	1.1755452	1.1633273	1.5241037	1.1226345	1.0126857	1.2933568	0.729097
Phase-1 RCT-77	1.2372848	1.1577238	1.2570834	1.0220433	1.2986847	0.9546501	1.2595639	1.2453387	1.8138458	1.3472058	1.0486833	1.4085848	1.2343578
Inositol polyphosphate multikinase (ipmk)4	0.5782218	0.81642385	0.4954063	1.1532516	1.1784689	1.1630523	1.1834895	0.8768357	1.560445	0.6203457	0.9230838	1.2355839	1.2355839
Phase-1 RCT-256	0.6233309	0.5814197	0.5354769	1.3984834	0.82076734	1.1988181	1.0822227	1.0938844	1.021899	1.0381824	1.4391258	1.3938466	1.3938466
Equilibrative nucleobenzylidinosine-sensitive nucleoside transporter	0.46934913	0.48531804	0.5670274	0.96419644	0.97268885	0.87457097	1.0759777	1.0062885	0.96287563	1.018953	1.1260031	1.2230359	0.94093314
CDK102	0.62530883	0.6325943	0.59006265	1.0691475	1.1245549	0.9681231	1.0525408	0.88339244	0.88313635	0.98118854	0.8895303	1.1398822	1.0885777
Phase-1 RCT-209	1.0001342	0.96830845	1.1269405	1.0618719	0.89556384	1.0618719	0.89556384	1	1.019847	0.9098299	0.96910405	0.74322766	0.74322766
NADH-lysochrome b5 reductase	0.8351456	0.8324033	0.66974596	1.2844975	1.0878421	0.85552514	1.4908028	1.1282676	1.1896281	0.8051768	1.0218052	1.2488472	1.2488472
Dynamin-1 (D100)	0.84472716	0.7388033	0.79875773	1.0150406	0.92267275	1.0720388	0.9048155	0.92819273	0.8374143	0.7524784	0.9561824	0.7780445	0.7780445
Sensence marker protein-30	0.10437873	0.69281936	0.11435562	1.1751034	1.1928709	1.1474498	1.0320355	0.69751	0.8170337	1.0384783	1.4015883	1.809052	0.87080427
Phase-1 RCT-48	0.5954438	0.5911951	0.88288153	1.0488904	1.0163017	0.9257058	1.1293125	0.9576881	0.8657842	0.9187344	0.9053943	1.0895951	1.2128415
Camitine palmitoyl-CoA transferase	1.621366	1.9778488	1.5281978	0.95109365	0.94230133	0.8880208	0.93954355	0.8717857	1.1570069	1.3036671	1.2285195	1.0168786	1.0038165
Alpha-2-microglobulin	0.12543559	0.1890419	0.14931838	0.9343721	0.50424296	0.42860994	1.6515193	0.65339285	0.7916583	1.118971	0.9160097	2.666176	0.8744836
Adiponectin C11	0.62419015	0.58414714	0.47125555	0.94329816	0.98517257	0.8683129	0.9814223	0.64050883	0.9026303	1.25878	0.9488789	1.2317374	1.260556
Phase-1 RCT-141	4.1413903	4.82358	4.0717268	1.0810305	1.0625975	1.44116928	0.8286467	1.0271238	0.93862164	2.8414452	1.4512878	1.6238613	1.0440184
Phase-1 RCT-141	3.2298612	6.9163303	2.3801976	0.8168013	0.7818802	1.1737773	1.1436179	1.1296057	0.9181742	1.2916052	0.9542018	0.7827257	0.7827257
Endothelin-1	0.8894575	0.9668167	1.0413928	1.1378936	1.066336	0.8989091	1.0557551	0.8209057	0.9181742	1.2562124	1.0549604	1.3915164	1.1712895
Phase-1 RCT-282	1.1088652	0.7682819	0.7682819	1.045148	1.2817282	0.93395436	0.95756763	0.9206928	0.9206928	1.3785037	1.02713938	0.89215668	0.7609598
Phase-1 RCT-282	0.8894575	0.9668167	1.0413928	1.1378936	1.066336	0.8989091	1.0557551	0.8209057	0.9181742	1.2562124	1.0549604	1.3915164	1.1712895
Phase-1 RCT-140	1.2785715	1.0285	0.975914	0.9266805	0.8114068	0.9823118	0.99144363	0.9873918	1.0381533	0.93224967	0.8206838	1.0018278	1.0018278
Cyclin D1	0.8283043	0.8283043	0.8283043	0.95179595	0.9924194	1.1287555	1.0315409	1.0374487	0.84758085	1.182491	1.0284601	1.19013	0.9498344
Phase-1 RCT-287	0.8071703	0.9708404	0.7235133	0.97989085	0.9924194	1.1287555	1.0315409	1.0374487	0.84758085	1.182491	1.0284601	1.19013	0.9498344
Phase-1 RCT-281	0.85263234	0.68753057	0.7284793	1.0276897	0.7622234	1.0176588	0.9080338	1.0171852	0.69284356	0.76252897	0.70130338	1.385844	1.385844
Retinol-binding protein (RBP)	1.251445	1.8014091	1.1292146	1.136686	1.2551725	1.084481	1.426237	1.0788796	1.5048444	1.3787137	0.98479374	1.4108398	1.1771501
ATP-stimulated glucocorticoid receptor	0.624185	0.5888142	0.5422951	0.9001137	1.1300302	1.0758237	0.95707595	0.85693425	1.2275275	1.0915853	1.0891418	1.0600978	1.0600978
translocation promoter (GYS)	1.8178984	2.7384281	0.9348237	1.4176254	1.188578	1.1077823	1.6933675	1.1876043	1.0242358	1.1100404	1.1633089	1.0203103	1.0203103
Phase-1 RCT-80	0.72984755	0.8783267	1.0166491	1.0080376	1.0370488	0.95734763	1.078561	1.0017515	1.1538986	1.0684897	0.9974841	1.4432871	1.4432871
Pyruvate kinase, muscle	1.7582772	2.5890565	0.8145434	1.1907314	0.96159436	1.0612392	0.970183	1.005397	1.0038548	0.9003606	1.0913972	0.8828282	0.8828282
PAR interacting protein	2.7082071	2.075579	1.4382755	1.1152691	0.93111894	1.1390778	1.0559496	1.2782239	0.7841501	1.0632835	1.2344182	1.1849014	1.1849014
Nucleoside diphosphate kinase beta isoform	0.25499564	0.3162328	0.36131755	0.9849221	0.9815674	0.912648	1.0223893	1.2117546	0.92031634	1.0873955	1.1460673	1.3531811	1.3531811
Gadd153	1.5431488	1.8932058	1.5897092	0.90638196	0.90843066	0.8978809	0.93588948	0.9680713	0.86004164	0.8923781	1.0003737	0.85028895	0.85028895
Insulin-like growth factor binding protein 1	7.472077	9.646749	1.6741246	1.2307438	1.2583363	1.2087088	1.2187864	1.0474768	2.1503225	1.1949488	1.141738	0.8980807	0.8980807
c-H-ras	1.3059786	1.327043	1.2895405	1.0393495	0.98583987	1.1840907	1.0487775	1.104404	1.2867297	1.0591182	1.0307576	1.0000782	1.0000782
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	0.39860013	0.44502813	0.5109392	1.3174424	1.1812415	1.024859	1.3433112	1.0878819	1.2589234	0.84708785	1.0517863	0.9226895	1.1163883
Alpha 1 - inhibitor III	0.535313	0.4228615	0.3517941	1.1268437	1.377275	0.78566176	1.1728784	0.81316113	0.76321135	0.89521384	0.61685648	0.76056575	1.060873
Sterol carrier protein 2	0.60767734	0.65710473	0.4824582	0.92040294	0.9145578	1.013577	0.9897801	0.91835766	1.2878108	0.9344466	1.0759339	1.2940714	1.1929557
Organic anion transporter 3	0.44978286	0.6878363	0.83939607	1.1012778	0.97355425	1.023828	0.95389665	1.0919858	0.88145556	0.7736386	0.9169813	0.939876	0.974819
Calgranulin B4	0.42005438	0.61258976	0.40148897	1.2328931	0.9380732	1.0429778	0.73868847	0.98278746	0.92043008	0.84254324	1.0543047	1.0770663	1.4978415
Phase-1 RCT-182	0.90876913	1.0611457	0.66145897	0.95595294	1.1186393	1.0371811	0.9949247	0.9571756	1.0889924	1.0125008	0.75401723	1.001811	1.1237280
Calgranulin B8	0.73806477	0.8858002	0.8858002	0.95949155	0.9222246	1.0734011	1.136744	0.9641639	1.0125518	0.783977	0.74455914	0.9925883	1.2878256
Aldehyde dehydrogenase, microsomal	0.89021677	1.0531714	0.60881105	1.2564398	1.0522046	0.9332892	1.1424881	0.93170375	0.94215477	0.93846896	0.72485228	1.0672041	1.4167204
Phase-1 RCT-128	0.72481708	0.48107618	0.43388432	0.9239988	1.1524246	0.8332892	1.1424881	0.93170375	0.94215477	0.93846896	0.72485228	1.0672041	1.4167204
Phase-1 RCT-102	0.47254246	0.27633217	0.30863547	0.9749973	0.985925	0.508824	0.78697618	1.045929	1.0054173	0.43289555	0.57046863	0.73088785	1.2747341
Preprocalgranulin, sequence 2	0.7066922	0.6150197	0.4767758	1.1822556	0.92211956	1.106702	1.117679	0.7172552	1.010197	0.99880745	0.70803636	1.040158	1.3228886
Calgranulin AII	0.8525993	0.99091434	0.63391644	1.6774671	1.2192104	0.9771672	0.85118636	0.97124214	1.5819123	0.758868	0.7086578	1.3777405	1.3777405
Phase-1 RCT-10	0.7470437	0.88640666	0.598588	1.1770282	0.98537844	1.271654	0.9543903	0.95156748	0.92131275	1.245548	0.8628608	1.1947073	1.1778393
Phase-1 RCT-48	0.86159458	0.78809883	0.80580586	0.7857284	0.75383385	0.75707257	1.1410823	0.7717118	1.0991498	0.6552598	0.7983767	0.9883962	1.400528
Phase-1 RCT-8	0.74180825	0.79661556	0.49928217	1.0283206	1.1431545	1.1237843	1.1832012	0.8020883	1.0821699	0.7012718	1.0043598	1.2682446	1.2682446

Table 29

Phase-1 RCT-158	0.5529782	1.0217257	1.0114515	0.9601507	0.88396335	0.9384102	0.8760024	0.978675	0.90313625	0.9099813	0.86109435	0.8876883	0.8771778
Phase-1 RCT-113	2.5369555	3.000212	2.0188162	1.0442346	0.8413784	1.0455339	0.90392303	0.94883325	0.9381916	1.0337348	0.97521746	1.1634045	0.92723844
Endogenous retroviral sequence, 5' and 3'	0.9838678	0.6176182	0.6952485	1.232518	0.47688344	1.1455748	1.022733	0.9853415	0.89411753	1.0212339	1.6538879	1.4896384	0.91377885
LTR	2.1455996	1.209876	1.783	1.0188948	0.58633436	0.74767077	1.156623	1.0013711	1.2773529	0.7547822	0.8872546	0.6851123	1.8988698
Beta-actin	1.4590955	1.8278515	1.7081408	1.021636	0.94812244	0.9518528	1.2518361	1.176167	1.09439	1.0598484	1.2147654	0.9552781	1.2402509
Phase-1 RCT-65	1.142385	1.3466808	1.7781652	0.97147256	0.77110094	1.0004754	1.1639212	1.0707842	1.2058761	0.9117481	1.1461595	0.89470687	1.2839231
MHC class I antigen RT1A10 alpha-chain	2.1766882	1.5512681	1.7595508	0.98152924	1.0086865	0.9916374	0.9494962	0.98435783	1.1754037	0.96588053	1.0425896	0.88769176	1.2283171
Bax (alpha)	1.3698984	1.4438775	1.3818762	0.96913746	0.89129785	0.9982416	0.98255265	0.98055395	0.96338504	1.1054786	1.0237094	0.9689028	0.9652066
Carbonyl reductase	1.8427408	1.0103257	1.03108	1.0071327	0.89916325	0.8376708	1.2135298	0.8339047	0.92205226	0.9453414	0.9000245	0.76106334	1.5744819
Beta-actin, sequence 2	1.301578	1.1396447	1.337037	0.9067274	0.94036166	0.9559185	1.0407982	1.2014074	1.1651678	0.92534447	0.8688167	0.847269	1
Interleukin-10	2.3216384	1.7151571	2.396179	1.0358327	0.95744487	0.9776347	1.4443167	1.2391211	1.3852113	0.96401684	1.2289038	1.0531168	1.1203219
Phase-1 RCT-191	0.5646938	0.6107443	0.5442534	0.99160074	0.7552315	0.98540765	0.8243984	0.90206504	0.90365308	0.9016579	0.955593	0.99946227	1.203801
Apoptosis-regulating basic protein	0.47857672	0.36687155	0.3344634	0.99042004	1.1926638	0.8970524	0.9900379	0.8457632	1.082722	0.93170136	0.9430229	1.1728424	0.7712702
Glutathione peroxidase	0.64792484	0.8278147	1.1578431	0.94825286	1.0110597	0.8096378	1.3171164	1.0702546	1.0201465	0.6505787	0.67018844	0.87592854	1.3055708
Phase-1 RCT-239	0.89434165	0.7409334	0.9028217	0.9492101	1.0235074	0.9020132	0.9545029	1.0915889	0.97040343	0.81745868	1.1028726	1.2352374	1.1069278
Phase-1 RCT-67	0.5236378	0.83148134	0.7828913	0.9616346	0.93821784	1.0086603	1.092579	0.84138596	1.1668298	0.932601	1.1089174	0.868241	0.7132616
Tryptophan hydroxylase	1.0618917	1.106641	0.9928217	0.98930657	0.8413951	0.9786207	1.197824	0.95737814	0.8721641	0.8672487	1.089175	1.0597354	1.11071
Sulfotransferase K2	0.8408106	0.7515051	0.7719846	0.9931987	0.8644948	0.78149384	0.98928215	0.9576301	0.89904094	0.7980893	0.91400675	0.9882833	0.98878938
Calgranulin B9	0.8852588	0.967394415	0.91437286	1.0375941	0.97762378	0.9152062	0.9115186	0.9126924	0.8674719	0.9168928	0.9134544	0.9342127	0.7620598
Phase-1 RCT-123	0.7810904	0.9889647	0.90062475	0.9147338	1.0337355	0.90322864	0.9585433	0.8953873	0.8868093	0.8533367	0.97859144	0.78284374	0.7789228
Aquaporin-3 (AQP3)	0.82073196	0.96937513	0.9551147	1.0094689	1.008212	0.922178	0.9174252	0.9117835	0.90051854	0.87135345	0.8684372	0.9343081	0.9331583
Stearyl-CoA desaturase, liver	0.09101388	0.043902956	0.21345524	0.71576955	1.8322778	0.05310708	1.5848851	0.8443565	0.8504803	0.042076282	0.887493	1.5378455	4.0331583
Phase-1 RCT-64	0.7159232	0.627141	0.7115199	1.3428188	1.0047733	0.98002436	1.1866075	1.2458325	1.4189616	0.7973055	1.1580701	1.1628206	1.1073412
(1) Gene expression data for 24 hour timepoint are presented as mean ratio of treatment/control for all 24 hour predictive genes (Table 5).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound-dose group at 72 hr: yes=ncr, necrosis observed; yes=bof, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 5 and as included in Table 28)													

Table 28

Table 2b. Expression Data for 24 Hour													
Timepoint (1)	BUS 14	BUS 14	CAD 1	CAD 1	CAD 1	CAD 1	CAD 1	CAD 1	CAD 1	CAD 1	CAD 1	CAD 1	CAD 1
Compound Dose (2)	1745	1745	1746	1746	1746	1746	1746	1746	1746	1746	1746	1746	1746
Animal Number (3)	no	no	no	no	no	no	no	no	no	no	no	no	no
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	1.49204	0.66414094	0.8668718	1.11125	0.8218571	1.2095281	1.7285603	1.6833563	1	0.8263777	0.70369434	1.3966328	2.0080492
Gamma-actin, cytoplasmic	0.9869101	0.980446	1.1531694	0.95013638	0.8674025	1.4606414	1.8941183	1.338319	0.9431939	1.0105226	0.9734493	1.9835976	1.9002892
Phase-1 RCT-145	0.76245726	0.9821052	0.9431784	0.96775615	1.109791	2.248084	0.2518716	1.8911576	0.9653353	0.9105262	1.0142325	2.4178674	0.8442409
Gad64a5	1.0704983	1.1592139	1.025255	1.037231	0.99599994	0.72734666	0.6213893	0.76158365	1.0943955	0.9636365	1.0033218	0.5371437	0.8716484
Phase-1 RCT-76	1.2360479	0.9835884	1.0658278	0.9866289	1.1449132	1.52409	1.9021442	2.065827	1.4370484	1.2801213	1.6070308	1.4391195	1.3101397
Fas antigen	1.1093072	1.0592467	1.0709677	0.908618	1.0554152	1.6413308	0.9680766	2.2848335	1.4427376	1.388137	1.5396143	3.5830648	1.4088946
Macrophage inflammatory protein-2 alpha	1.0638702	0.9992428	1.0709677	1.0692253	1.0498885	1.0692253	1.0498885	1.0692253	1.0498885	1.0498885	1.0498885	1.0498885	1.0498885
Interferon beta1	1.018465	0.98283166	1.1221644	0.8647407	0.9869738	1.3596162	1.7780657	1.5105662	1.7816856	1.4003307	1.2898867	1.2870375	1.1690223
Phase-1 RCT-207	1.3408637	0.96473235	0.9742804	1.1016002	0.8082071	0.97791356	0.9914201	0.8663202	0.8017267	0.8304228	0.9298993	1.0795975	1.1376342
Aspartate aminotransferase, mitochondrial	0.7811341	0.9766442	1.2757576	1.084808	1.0242475	0.9361627	0.9361627	0.9361627	0.9361627	0.9361627	0.9361627	0.9361627	0.9361627
Casest-alpha	0.9192575	0.9800503	1.1748185	1.0543238	1.3893516	0.8140184	0.9481172	0.8276157	0.84680843	1.0196775	1.0612845	0.9843189	0.88643937
Malic enzyme	0.7278507	0.94174725	1.3957589	0.9927535	1.0704811	0.780627	0.8313031	0.727006	1.1352075	1.0875005	0.93352723	0.8200505	0.93498695
Phase-1 RCT-30	0.8589863	0.95894146	1.0403706	1.1302462	0.95974314	0.9773819	0.8385541	1.0865161	1.1576304	1.05903	1.186671	0.736158	1.0364463
Hepatocyte growth factor receptor	0.9838817	1.0395789	0.73232365	1.2333327	1.4087168	0.9879965	1.3970004	1.4362815	1.5401709	0.7632044	0.7528784	1.2406976	1.1201105
MAP kinase kinase	1.0041174	0.9036792	1.0253911	0.9863766	1.0071004	1.4362815	1.5401709	0.7632044	0.7528784	0.7528784	0.7528784	0.7528784	0.7528784
Sodium/glucose cotransporter 1	0.53933175	0.910047	0.9863766	0.9750069	0.9306686	1.1990254	1.3149977	1.2815208	1.1225919	1.0972033	0.9595133	2.903668	1.0180405
Phase-1 RCT-50	1.0434508	1.0452284	1.0969672	1.0039035	1.4271226	1.708817	2.3180552	2.20768	1.0091768	0.9893425	1.1264547	1.7672387	1.3116623
Phase-1 RCT-192	1.5608423	1.0297265	0.8771248	0.8734779	0.816821	0.6979315	0.5772716	0.6385901	0.67416074	0.6293041	0.73704344	0.8263966	0.7096907
Phase-1 RCT-288	0.92684466	1.053153	1.223352	1.2522728	1.2397665	1.5247991	1.8925566	1.7855768	0.8342423	0.8342423	0.8342423	1.8288437	1.5163486
Phase-1 RCT-37	0.9219961	1.0308381	1.0415475	0.8418556	1.4128814	1.8688478	2.7241354	2.0412061	0.9542673	0.89378155	0.87193664	2.0240538	1.9265441
Organic cation transporter 3	1.0942562	1.0766976	0.9467462	0.9731475	1.5163639	1.9216183	2.717312	2.0010778	0.8710781	0.8295080	0.8655181	2.642786	2.001232
60S ribosomal protein L6	1.3610433	1.0728373	0.9684309	0.9074502	0.8915353	1.3184633	1.451205	0.8496301	0.9952931	1.0325587	1.0325587	5.140148	1.0743979
Zinc finger protein	0.91505027	0.9973993	1.028046	1.1449663	1.076582	1.4963483	2.0198742	1.7687768	1.3995675	1.3576395	0.8991346	0.8171689	1.4187759
Calgranulin B2	1.1172072	0.8737182	0.8101889	0.8764965	0.8313832	1.2739114	1.4758488	1.4039727	1.5975051	1.0410495	1.8455994	2.306296	1.3842259
ID-1	1.1755104	0.9182518	1.0773294	0.87972828	0.92988155	0.6411897	0.58004837	0.6062883	0.7725517	0.79201384	0.7614585	0.4892659	1.0290068
Phase-1 RCT-92	1.7353713	0.99375194	1.0461135	1.1808642	0.9908646	1.6174549	1.62379	1.9521385	1.5067834	1.5351185	1.6315752	1.4532144	1.1325
Phase-1 RCT-115	1.1594784	1.1215018	1.3330051	1.7573369	1.5132567	0.8296525	0.69480646	0.79471827	0.71576303	0.7637605	0.7474104	0.37054327	0.5869646
Martin F/G	1.067806	1.012766	1.2132412	0.99512047	1.0668927	1.2872567	1.4393719	1.3255996	1.0110186	0.9872476	0.9545194	1.054702	1.1571157
Phase-1 RCT-79	0.8719254	0.8937023	1.146005	0.95738375	0.923763	1.4108024	1.528071	1.566738	1.3503109	1.217544	1.0428167	1.837397	1.5237974
Sorbitol dehydrogenase	1.4126883	1.968568	0.8396486	0.95738375	0.923763	1.4108024	1.528071	1.566738	1.3503109	1.217544	1.0428167	1.837397	1.5237974
Phase-1 RCT-24	1.3186815	1.0817349	1.283385	1.3435725	1.8298843	1.8831180	2.707807	1.0391878	1.2197623	1.132534	1.107653	1.1475741	1.5991119
Calgranulin B1	1.0671792	1.0960021	1.1600255	1.0042372	1.424789	1.3383247	0.8099168	1.395479	1.8430456	0.86842215	0.8408044	1.107653	1.1475741
Elongation factor-1 alpha	1.2377818	1.0568441	0.73544693	0.99578394	0.6365884	1.5977325	0.54570204	0.3449582	0.5416257	0.8944884	0.86831303	0.60833614	0.2773432
L-xylono-gamma-lactone oxidase	1.6704863	1.1687533	0.7465334	0.6365884	1.5977325	0.54570204	0.3449582	0.5416257	0.8944884	0.86831303	0.60833614	0.2773432	0.5688789
Phase-1 RCT-33	1.3484479	1.2316489	0.8145452	0.95187785	2.0443347	0.83059496	1.4943736	1.6576697	1.8101414	1.393342	1.7493949	3.2143707	1.064571
C-Jun	0.74694705	0.752187	0.8397944	0.9237731	0.86037683	1.5413363	1.4943736	1.6576697	1.8101414	1.393342	1.7493949	3.2143707	1.064571
Phase-1 RCT-233	1.2146927	0.97251328	1.2550136	1.120843	1.4108846	0.69574887	0.5920321	0.6563312	0.8041626	0.5398986	0.5097557	0.75840396	0.8483635
Phase-1 RCT-36	0.91034853	1.0313365	1.036553	1.0643995	1.3902068	0.9182928	0.8019883	0.9601123	0.76345707	0.9878119	0.9849631	0.8815824	0.88077607
Phase-1 RCT-242	0.74517745	0.8567058	1.4282796	1.1295344	1.0639249	1.3389702	1.7030543	1.398145	1.1610334	1.0551423	0.9816344	1.465543	0.92216957
Phase-1 RCT-181	1.0245229	1.021248	1.124297	0.98371824	1.0777204	0.7845542	0.6792496	0.8048474	0.7397726	0.75548265	0.9401068	1.1915328	1.1794572
Phase-1 RCT-185	1.0661187	1.070547	0.848997	0.9078487	0.84942454	0.8162676	0.60410494	0.2509987	1.0859321	1.0281111	0.901068	1.354774	1.151626
Phase-1 RCT-179	1.4217637	1.1413497	0.8119224	1.0604142	1.0321812	1.9390735	2.4618635	1.5400269	0.9258371	0.9570468	0.9079343	1.782594	1.3872033
Phase-1 RCT-144	0.8628326	0.9512708	1.1149272	1.0604142	1.0321812	1.9390735	2.4618635	1.5400269	0.9258371	0.9570468	0.9079343	1.782594	1.3872033
IL6-a	0.9655782	0.91618545	1.1221476	1.2289335	1.258943	1.4321122	4.2953467	2.652378	2.1085238	1.840754	1.0219359	1.840301	1.6012229
Phase-1 RCT-225	1.236395	1.1933484	0.960847	0.9440668	1.0044085	2.5482196	4.2953467	2.652378	2.1085238	1.840754	1.0219359	1.840301	1.6012229
60S ribosomal protein L6 (alternate done 1)	1.2897738	1.01772	1.1154768	1.2342839	1.4359598	1.6424365	2.2602022	1.9591738	0.7872725	0.7988205	0.81744826	2.3688332	1.8346372
Beta-tubulin, class I	1.6603278	0.80514395	0.910508	1.0500515	1.7813461	2.0683703	3.1523101	2.5183637	1.2148707	0.939521	1.0667461	2.8508553	1.182604
Multidrug resistant protein-2	0.9125143	0.9161108	0.68266334	0.8683366	0.75583655	2.018425	2.1274397	2.136596	1.6322928	1.3965453	1.8623516	8.1739992	1.905452

Table 2b

Phase-1 RCT-48	1.3328769	1.0830429	1.3702456	1.5852138	1.9354672	1.9898404	0.855738	0.8570986	0.88131547	3.5507123	0.97755208
Calgranulin B3	1.0382159	0.9700677	1.0875949	1.1618257	1.6576667	1.4549432	1.0131752	0.9860788	1.0131752	1.5956331	1.3910927
NADP-dependent isocitrate dehydrogenase, cytosolic	1.3431143	1.0978159	1.0356853	1.10727	1.2875881	0.81557596	0.7662702	0.8016474	0.7894462	0.7894462	0.7878787
Oxyster binding protein 1	1.1481624	1.1030823	0.81444516	0.8771986	1.025341	0.9308244	0.6759053	0.8747213	0.8980186	0.8980186	1.0496004
Sodium/iodide symporter	0.853996	1.1589404	0.8284117	0.825328	1.1542131	0.812742	0.6198344	0.5913297	0.8335502	0.8335502	0.89768368
Phase-1 RCT-174	0.7804074	0.9746158	1.1242289	1.1355289	1.021726	1.044646	1.0526043	1.0463915	1.0275607	1.0334953	0.98205667
Phase-1 RCT-77	1.2023578	1.1478632	0.88134193	1.1596488	0.93866874	0.975468	0.9694715	0.9105019	0.90051528	0.9811829	0.97218704
Inositol polyphosphate multikinase (IpMK)	1.4836521	1.042209	0.8900498	0.93351684	0.63474375	0.5555585	0.6694707	0.5591506	0.74515447	0.8448188	0.87130317
Phase-1 RCT-236	1.2204369	1.0465976	0.99238604	1.1650034	2.0959169	0.81424083	0.67850937	0.8144337	0.63242716	0.5920525	0.3308325
Equilibrative nitrobenzylthioinosine-sensitive nucleoside transporter	0.8000819	1.0728408	0.7312238	1.0191307	0.7873164	0.7540149	0.4894772	0.79273856	0.72172207	0.69023806	0.755101
CDK102	1.0632249	1.0899574	1.0144035	0.9684399	1.2064126	0.94932514	0.8722729	0.9536306	0.9048108	0.95843	0.70368734
Phase-1 RCT-208	0.7647852	0.9375618	1.1178647	0.8776518	0.940838	0.7136849	0.765191	1.0169422	1.0770056	1.1422387	0.70955247
NADH-oxochrome b5 reductase	1.1573391	1.1002581	0.8712698	0.8314309	0.925298	0.7487706	0.6924385	0.5322185	0.534878	0.5435898	0.6881441
Dynamin-1 (D100)	0.845993	0.963396	1.1475768	0.9417752	1.172211	0.7987314	0.5110335	0.7390043	0.8335518	0.83038735	0.79183814
Senescence marker protein-30	1.2686149	0.87245264	0.8535687	1.0589164	0.82618725	0.7864495	0.6048464	0.8290254	0.8070969	1.0894308	1.0061651
Phase-1 RCT-89	1.120274	1.0300634	0.6328765	1.135876	1.0348824	0.77379805	0.57874835	0.6809766	0.7646036	0.81335163	0.43172038
Carbamate penicillin-CoA transferase	0.98035085	0.98262628	0.929016	0.8244928	0.8219018	0.6073898	0.4085522	0.5920569	1.1736177	1.4513568	1.2701468
Alpha-2-microglobulin	0.7485287	0.69762988	0.75252	0.41396147	0.5961143	0.94840813	0.16972005	0.2630687	0.8020655	1.3682715	0.7507357
Acidoprotein Cili	1.1281071	0.89082303	1.0819147	0.746855	0.81021865	0.6265475	0.5124673	0.6200687	0.8401558	0.82839155	0.8953225
Calpains L, sequence 2	1.1563909	1.2030499	0.6398752	1.1254956	0.8209748	1.8321318	2.8458443	1.6459104	0.86583673	0.9574473	1.2842411
Phase-1 RCT-141	0.955449	1.1784306	0.3481505	0.8254817	1.703169	1.1956176	1.7548942	1.4083269	1.34149	1.1881922	1.2847116
Phase-1 RCT-289	1.2110971	1.0585129	0.88254817	0.7546173	0.9633701	0.8448507	0.6372736	0.6984938	0.7026874	0.6840134	0.88259513
Ethanolin-1	0.8634488	0.8995174	0.95199719	0.8645106	0.9158465	0.9549893	0.7714788	0.8688563	1.1214393	0.970753	0.82411425
Phase-1 RCT-282	0.7980395	1.0138764	1.1533077	1.1653216	1.0025903	1.0678859	0.88197263	1.0407335	1.0749393	0.9444048	1.0197012
Phase-1 RCT-140	0.83317925	0.9918556	0.95189444	0.90357155	0.84786748	0.8796428	0.9738895	0.87469914	1.1447764	1.104337	0.8693772
Cyclin D1	0.928138	1.541773	0.8559404	0.93666893	0.91471	1.8202318	1.8302007	1.8376803	1.087484	1.3057003	1.1659694
Phase-1 RCT-281	0.7773899	1.1116906	0.8516275	0.9117374	0.9388954	0.92899504	0.8642748	0.8782192	0.8851885	0.8813375	0.9171513
Retinol-binding protein (RBP)	1.2274399	0.9472982	0.7426389	0.85068116	0.89331208	0.8670477	1.0102143	0.86578083	0.9831342	1.1922078	0.3463521
Retinol-binding protein (RBP)	1.2147807	1.0771792	0.8312863	0.87310284	0.7517989	1.0258623	0.8422573	0.8403368	1.0074106	1.0548973	1.1078828
ATP-stimulated glucocorticoid-receptor translocation promoter (GV6)	0.8620202	0.8126151	0.7132093	1.1360582	0.8352956	0.83607674	0.6653656	0.8301034	1.1992908	1.1586262	0.8686378
Phase-1 RCT-60	1.0279002	1.0281534	1.0881787	1.0483392	1.2613846	1.4781488	2.0282765	1.4118925	0.8380832	1.0161315	0.9095889
Pyruvate kinase, muscle	1.2499297	1.1480552	1.0774521	1.0461551	1.4214342	1.6428086	2.2181032	2.1698622	0.804874	0.80927736	0.775644
PAR interacting protein	1.0427082	1.0018455	1.0529693	0.979998	1.1271478	1.2514662	1.6109548	1.1780342	0.9517287	1.8909643	1.2187732
Nucleoside diphosphate kinase beta isoform	1.2285272	1.2170374	1.4073727	1.4542128	1.516178	1.802188	2.390627	1.9011159	1.0688402	1.0867051	1.1948473
Gadd153	1.0377822	1.0283177	0.7057004	0.7239225	0.9012818	2.859048	4.2659816	3.3898818	1.6213018	1.3283073	1.3606365
Insulin-like growth factor binding protein 1	0.9117708	0.92429423	0.78827626	0.7884562	1.2245544	1.4225075	1.6904492	1.9052514	1.1220509	0.8957877	1.1789569
c-H-ras	1.1201024	1.0224457	0.6881305	0.8430381	1.1584265	1.2223715	1.3737329	1.2664496	1.2512568	1.2708756	1.3148822
N-Hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	0.9530183	1.2692161	0.81475675	1.0025032	0.7438684	0.6638923	0.37748814	0.44069186	0.73417765	0.78400456	0.67413654
Phase-1 RCT-52	1.1905893	1.0672765	1.3113102	1.2300471	1.0770789	0.882542	0.7555132	0.633096	0.74841535	1.0380056	1.082501
Alpha 1 - inhibitor III	1.3428322	0.874452	0.5270644	0.4897887	0.4518126	0.4707684	0.32891822	0.43591765	0.5728379	0.6371714	0.7408561
Steroid carrier protein 2	1.308826	1.051528	0.9149887	1.2115195	1.2583473	0.8408293	0.74801823	0.92560416	0.67894717	0.816357	0.7490813
Organic anion transporter 3	0.91334897	1.4680489	0.7498769	0.75921434	0.921734	1.0507448	0.6634789	0.787854	1.2942573	1.216386	1.2057085
Calgranulin B4	2.3259223	1.1197827	1.215807	0.90960745	1.2023371	0.77291228	0.70174783	0.67943585	0.95748824	1.1108873	0.95478274
Phase-1 RCT-182	1.0449928	1.0344663	0.6763788	0.808018	0.6001697	0.8337055	0.5663141	0.6692163	0.78300505	0.9748895	0.519241
Calgranulin B8	1.2083371	0.9791808	0.5150322	0.7691277	0.60072106	0.7817684	0.69375228	0.77278525	0.65943986	0.54836925	0.65408456
Adenylate dehydrogenase, mitochondrial	1.1776002	1.683462	0.8868441	0.7940079	0.98464038	0.9071546	0.7173736	0.6689016	0.9889172	0.9337368	0.90897844
Phase-1 RCT-128	1.2891512	1.0042634	0.988745	0.9208751	1.5306061	0.7659346	0.3552004	0.8862388	0.84289184	0.89828665	0.70881693
Phase-1 RCT-102	1.322002	1.1873782	0.58225375	0.709841	0.5678305	0.4328129	0.29044308	0.35622436	0.4687868	0.49974048	0.44486722
Preproalbumin, sequence 2	1.3168972	0.9708351	0.8504032	0.61898596	0.6632786	0.6388883	0.5190556	0.45151454	0.7372877	0.9134773	0.9269916
Acidoprotein All	1.2038306	1.597223	1.8019375	1.429499	4.7399087	0.83643806	0.34298378	0.4222446	0.73739253	0.7664845	0.8771855
Phase-1 RCT-10	1.2958768	1.0892377	0.758666	0.8414262	0.6958261	0.8384262	0.7598811	0.63160016	0.73415947	0.89734884	0.71284714
Phase-1 RCT-48	1.2530143	1.0121841	0.8351429	0.8958286	0.848932	1.0240002	0.804838	1.1131778	0.7488877	0.6821268	0.85704416
Phase-1 RCT-18	1.1403376	1.0737125	0.85854167	0.86224551	0.7452846	0.83336307	0.49350047	0.44418344	0.7397583	0.89495647	0.9006621

Phase-1 RCT-168	1.0882225	1.1304932	1.125398	1.0275257	1.3379147	0.77827434	0.72128046	0.6865891	0.74748283	0.81622715	0.8237702	0.7336245	0.85967669
Phase-1 RCT-169	0.7835226	0.9494334	1.3276424	0.98452076	1.87267021	0.80075262	0.70782286	0.7077969	0.81622715	0.8237702	0.7336245	0.85967669	0.8237702
Beta-actin synthase	1.0541975	1.0698266	1.0480077	0.9246523	1.8216412	0.6981873	0.71824604	0.7618927	0.81622715	0.8237702	0.7336245	0.85967669	0.8237702
Phase-1 RCT-266	1.5328462	1.1817225	0.9292698	0.633469	0.6629982	0.801514	0.34768685	0.42772046	0.81622715	0.8237702	0.7336245	0.85967669	0.8237702
Carbonic anhydrase III	1.1638229	1.0422651	0.8635055	0.5319881	0.7357704	0.4888078	0.14671153	0.24022425	0.81622715	0.8237702	0.7336245	0.85967669	0.8237702
Phase-1 RCT-291	1.2189777	1.0985863	0.7936155	0.95933365	0.8441966	0.8281268	0.7629834	0.770144	0.8211449	0.8398168	0.9004078	0.33851227	1.2537147
Carbonic anhydrase III, sequence 2	0.920651	1.3402159	1.1584333	0.71155464	0.5535402	0.8252404	0.7629834	0.6115433	0.8398168	0.9004078	0.33851227	1.2537147	0.9004078
Phase-1 RCT-271	1.2564017	1.2406162	0.76485295	0.7788168	0.5535402	0.8252404	0.7629834	0.6115433	0.8398168	0.9004078	0.33851227	1.2537147	0.9004078
FMG-CoA synthase, mitochondrial	1.110822	0.9597344	0.622182	0.85954845	1.1802347	0.9424717	0.9339378	0.81622715	0.8237702	0.7336245	0.85967669	0.8237702	0.85967669
Phase-1 RCT-189	1.1095145	1.081937	0.8648884	0.85954845	1.1802347	0.9424717	0.9339378	0.81622715	0.8237702	0.7336245	0.85967669	0.8237702	0.85967669
Phase-1 RCT-40	0.86472225	0.9305126	1.0362787	1.2821177	0.7072266	0.65592386	0.46466344	0.943198	0.8211058	0.8252744	0.84874886	0.62081665	0.8340857
Ureaprotein 2 precursor	1.294318	0.9785155	0.6980378	0.918799	0.6335393	0.81622715	0.8237702	0.7336245	0.85967669	0.8237702	0.7336245	0.85967669	0.8237702
Paraoxonase 1	1.0276881	0.8224365	0.6948953	0.81774014	0.7681678	0.51223031	0.37165594	0.6075453	0.47928378	0.5505188	0.62686558	0.42610063	0.68131094
Uter fatty acid binding protein	1.3465599	0.8424528	0.51598895	0.4399325	0.45518765	0.51223031	0.37165594	0.6075453	0.47928378	0.5505188	0.62686558	0.42610063	0.68131094
Phase-1 RCT-38	1.1581867	1.083149	0.8614677	1.1112628	0.9753243	0.75145286	0.681133	0.8089179	0.6005413	0.6170121	0.5720821	0.32421005	0.8155399
Phase-1 RCT-270	1.403988	0.9555659	0.7555068	0.75157666	0.6570805	0.81281413	0.7105103	0.71934247	0.7251484	0.7304176	0.67082584	0.4399497	0.8155399
Transferrin	1.3673004	0.88139473	0.6311055	0.5103184	0.5799006	0.50362486	0.36720893	0.56253655	0.6311049	0.7395544	0.7252787	0.30942386	0.7188482
Cytochrome P450 11A1	1.5903503	0.98035944	1.240237	1.2621064	0.97100735	0.9019488	0.45359161	0.45359161	0.38419172	0.5046736	0.38989336	1.0173372	0.6300731
Phase-1 RCT-117	1.2391851	1.1901232	0.8045529	0.8178895	0.74325566	0.74272167	0.7502321	0.80178808	1.1237067	0.80456316	0.9733649	0.51417738	0.7819173
Phase-1 RCT-117	1.5328485	1.2714103	0.84716978	0.98002376	1.0444139	0.78553336	0.80884365	0.8133885	0.9793426	1.0057329	1.2318835	2.0621252	1.4337863
Meioma-associated antigen ME-491	0.7988351	0.9487007	0.9624436	0.9556595	0.8001506	1.8410482	2.1732683	1.8214827	0.9739546	1.0057329	1.2318835	2.0621252	1.4337863
Phase-1 RCT-12	0.9954492	0.9452855	0.8918211	0.9251572	1.2956396	1.5911572	2.085646	1.9405565	1.3455988	1.1222366	1.2873701	1.9253509	1.1399744
Phase-1 RCT-152	1.1325012	1.1412129	1.483742	1.335917	1.5576988	1.7688012	2.2040083	1.7363951	0.93053005	0.8178273	0.68744034	1.7552665	1.650614
14-3-3 zeta	1.1481848	0.88901204	1.3397564	0.9097308	1.0473813	1.6601833	1.9257604	1.509641	1.5396113	1.8436518	1.1644213	1.8359208	1.3859208
Cytochrome P450 2C23	1.5966237	1.1035984	0.45114833	0.8280049	0.9037476	0.66955054	0.5320421	1.7921318	0.73647386	0.81593544	0.71144368	0.7604168	0.6348689
Voltage-dependent anion channel 2 (Vdac2)	1.4007715	1.1130731	1.1257282	1.1251417	1.3872546	1.511794	0.9423338	1.5794472	1.1439148	1.1804931	1.2091378	1.7048164	1.5459222
Superoxide dismutase Mh	0.9438074	1.0015068	1.274749	1.0318981	1.025087	1.7960582	2.0882967	1.4901533	1.0600232	1.0306317	1.1087126	2.1553682	1.4137173
Phase-1 RCT-154	1.04525	1.1474055	1.0690471	1.3737698	1.2037685	2.018543	2.8760935	2.311271	1.1438039	1.0806027	1.414644	2.9548874	1.5180119
c-myc	0.7356411	1.0009671	0.8956941	0.83408933	1.0036646	1.7368491	2.5799966	2.16114	1.1224028	1.085965	1.048427	2.808725	1.0245543
Phase-1 RCT-166	0.98561055	0.8710991	1.2242878	0.9765631	0.89684793	1.505811	1.7607065	1.336197	1.0541176	1.0710687	1.0562623	0.83025583	1.0165531
Cytin G	0.860232	0.9578373	1.2400135	1.0838339	1.1412454	1.6527618	1.9931865	1.630707	1.0432892	1.0657482	1.056954	1.5168521	1.4047454
Calgranulin B5	1.528194	0.94331497	0.8390218	0.85435645	0.8701474	1.2743765	1.8323931	1.2273807	0.9881423	0.9538426	0.8721052	1.4908071	1.3294842
p53	0.9525448	1.002539	1.227259	1.3401894	0.9883773	1.2626331	1.7128332	1.2385712	0.8433959	0.83393685	0.84784234	1.5378285	1.2091863
Phase-1 RCT-205	0.876555	0.9694255	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602
Phase-1 RCT-48	0.7898345	0.8986336	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602
Caspase 3	1.8731143	1.1238756	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602
Alpha-tubulin	0.961248	0.9507094	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602	1.1723602
Ribosomal protein L13A	0.7832122	1.0163554	1.5403658	1.0981323	1.523262	2.3807302	2.453382	2.332507	0.9268111	0.9377703	0.9377703	0.9377703	1.875745
IgE binding protein	1.1731839	1.0073216	0.8664179	1.0970339	1.0510753	1.3218073	1.5532203	1.258144	1.1335663	1.1751024	1.050838	1.3684326	1.2872132
Phase-1 RCT-39	1.258176	1.001616	1.0721028	1.1750342	1.0661878	1.4253789	1.7304277	1.5537362	0.8405036	0.8904847	0.8904847	0.8904847	1.202405
Cofilin	0.7229878	1.051673	1.1534678	1.2505689	1.2944898	1.3645937	1.3539984	1.4587063	0.87234084	1.041084	0.78337794	1.7787225	1.202405
Heme oxygenase	0.804184	0.8758365	1.1733422	1.051228	1.0670377	1.1618763	1.7233387	1.208828	0.9534594	1.0059895	0.9790716	1.2809565	1.1504553
Phase-1 RCT-241	1.4092653	1.1375248	1.096667	0.8357224	0.81241868	1.2346561	1.9368812	1.6728492	0.9680114	0.9740847	1.0761544	1.9108064	1.125705
Ribosomal protein S9	1.0018165	0.9843425	1.2037048	0.8627468	0.8980908	1.1403744	1.4555907	1.2218955	0.8907693	0.9076321	0.9076321	0.9076321	1.4516893
Phase-1 RCT-258	1.7798581	1.1152531	0.80529658	0.82507129	0.8020005	1.033005	1.3004638	1.378132	0.93139505	1.0926203	0.927073	1.5412409	1.4008393
Argininosuccinate lyase	1.7798581	1.1152531	0.80529658	0.82507129	0.8020005	1.033005	1.3004638	1.378132	0.93139505	1.0926203	0.927073	1.5412409	1.4008393
Phase-1 RCT-180	0.9309531	0.87381035	0.74256655	0.77533877	0.68189296	1.009704	1.2287628	1.5142168	1.4534425	1.720249	1.5513285	2.07706	1.8396803
Multidrug resistant protein-1	1.4534361	1.0427188	1.0727961	0.9122623	1.009704	1.2287628	1.5142168	1.4534425	1.720249	1.5513285	2.07706	1.8396803	1.8396803
Oxidative decarboxylase	1.2378267	0.9584429	1.2107343	1.269455	1.0925539	1.4534425	1.720249	1.5513285	2.07706	1.8396803	1.8396803	1.8396803	1.5513285
Thymidine beta-10	1.74562867	1.0631162	1.2107343	1.269455	1.0925539	1.4534425	1.720249	1.5513285	2.07706	1.8396803	1.8396803	1.8396803	1.5513285
Phase-1 RCT-72	1.1634801	1.0631162	1.2107343	1.269455	1.0925539	1.4534425	1.720249	1.5513285	2.07706	1.8396803	1.8396803	1.8396803	1.5513285
Phase-1 RCT-109	1.0412234	0.8976973	0.7847043	1.021802	1.2638826	0.8436368	1.0055728	0.6174431	0.919344	0.9668123	1.214753	0.98535085	0.675215
Phase-1 RCT-76	1.0412234	0.8976973	0.7847043	1.021802	1.2638826	0.8436368	1.0055728	0.6174431	0.919344	0.9668123	1.214753	0.98535085	0.675215
Vacuole membrane protein 1	1.0297737	1.0141358	1.1269033	0.8753033	1.2638826	0.8436368	1.0055728	0.6174431	0.919344	0.9668123	1.214753	0.98535085	0.675215

Phase-1 RCT-158	0.76747097	0.9241449	1.3105288	1.0876535	1.0529094	0.8715081	0.99771148	0.9494708	1.0828925	1.0685041	1.0578258	1.4086428	1.0482455
Phase-1 RCT-113	0.6948097	0.69716125	1.2434372	1.1046608	1.1951654	0.9422107	1.0633543	0.9253874	1.1617627	1.202199	1.2605778	1.6755138	0.9339872
Endogenous retroviral sequence, 5' and 3'	1.2908063	0.84354585	0.67318105	0.83263415	0.7410591	1.5203727	2.199482	1.6691419	1.5978376	1.1344993	1.4405288	1.1083918	1.911832
LTR													
Beta-actin	1.5655321	0.4525907	0.83355004	1.0248864	0.8814244	1.3508722	1.8152388	1.8209372	2.2156713	1.9706372	1.975018	1.9930058	2.1564196
Phase-1 RCT-65	1.0828404	0.9326208	0.7236708	0.9002927	0.7595491	1.1004561	1.3844131	1.4342732	1.5458307	1.5591791	1.6128478	1.1251483	1.1012527
MHC class I antigen RT1A101 alpha-chain	1.0154325	1.1418623	0.7873294	1.118348	0.7831682	1.8345251	1.9832898	2.106563	1.7832168	1.8609424	1.8589104	2.2901735	1.4287757
Bax (alpha)	1.1650804	0.9752273	0.7871864	0.86345185	0.8658935	1.1555853	1.7218331	1.6993425	1.4134742	1.2755356	1.3882053	1.384380	0.927784
Carboxyl reductase	1.1165915	1.053322	0.6911055	0.698458	0.7612382	1.325778	1.5711792	1.4042662	1.125839	1.1323282	1.18223	1.689638	1.474849
Beta-actin, sequence 2	1.3003388	0.87213624	1.598405	1.668788	2.1017482	1.3311931	1.6116711	1.5080129	1.1909307	1.118441	1.0889027	2.0851284	1.5415388
Infrared-10	1.023946	1.0228221	0.67891705	0.6789174	0.7727156	1.0756788	0.9467352	1.359238	1.1209007	1.1789944	1.1818944	1.209474	1.2901706
Phase-1 RCT-181	1.1393405	0.98501647	0.9112854	0.94189333	0.9386287	1.1923363	1.265228	1.3083432	1.1062282	1.1898993	1.1308348	1.8617877	1.2912173
Phase-1 RCT-111	1.068432	1.1241288	0.9627779	0.82715094	1.3880228	0.66587316	0.66274047	0.72873424	1.1890218	1.0772948	1.148818	0.88821086	0.7890444
Apoptosis-regulating basic protein	1.1268922	0.9080899	0.3962403	0.65888473	0.660563	0.78666523	0.66274047	0.72873424	0.6831736	0.7157173	0.6588197	0.5442459	0.83945844
Glutathione peroxidase	0.770281	0.9326892	0.9049058	0.8876559	0.9455234	0.71289515	0.45468527	0.66574748	1.1297386	1.073292	0.9630342	0.8517497	0.82122004
Phase-1 RCT-67	0.702597	0.9681394	1.1479782	1.0807691	1.0837842	0.8487258	0.8090678	0.89461914	0.83778584	0.86141497	1.0857447	0.8840178	0.89408255
Tryptophan hydroxylase	1.0661994	1.1380566	0.8391579	1.1812968	1.2249673	0.89489155	0.81240287	0.75227576	1.121148	1.0546321	0.7086096	0.7832424	0.6888867
Sulfotransferase K2	0.9054714	0.9625181	0.631817	0.78853944	0.69363785	0.9176123	0.87284933	0.8936751	0.9715658	0.9891803	1.0204797	0.806812	0.9095045
Calgranulin B9	0.843567	0.9932353	1.302592	1.1165439	0.9683829	0.82955104	0.7072213	0.7700183	0.9284773	0.9578904	0.89197356	0.8344212	0.74557084
Phase-1 RCT-123	0.8202168	1.0412254	1.064783	1.026656	0.9441257	0.82955104	0.7072213	0.7700183	0.9284773	0.9578904	0.89197356	0.8344212	0.74557084
Phase-1 RCT-86	0.81079878	1.0078657	1.064783	1.026656	0.9441257	0.82955104	0.7072213	0.7700183	0.9284773	0.9578904	0.89197356	0.8344212	0.74557084
Aquaporin-3 (AQP3)	0.80944425	1.0459888	1.2854731	1.0832825	1.03031	0.8975092	0.7602249	0.7898818	0.86519146	0.969038	0.97889714	0.8683586	0.82045597
Stearyl-CoA desaturase, liver	3.3189298	1.9952987	0.6088597	0.5114485	4.8588034	0.45643868	1.4607037	0.9023285	0.15680674	0.1289412	0.050787628	0.1729248	0.17397204
Phase-1 RCT-64	1.1631393	1.0693436	0.88515226	1.0249578	1.2659922	0.9037228	0.864183	0.9504464	0.8649787	0.9431835	0.8448659	0.42719817	0.7748035
(1) Gene expression data for 24 hour													
timepoint are presented as mean ratio of													
treatment/control for all 24 hour predictive													
genes (Table 5).													
(2) Compound and dose abbreviations as in													
Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for													
compound-dose group at 72 h: yes-neo,													
necrosis observed; yes-both, necrosis with													
inflammation observed; no, no histopathology													
observed													
(5) Predictive gene (as in Table 5 and as													
included in Table 2b)													

Table 29

Table 28. Expression Data for 24 Hour															
Timepoint (1)															
Compound-Dose (2)															
Animal Number (3)															
Liver Toxicity Inflammation Classification (4)															
Gene Name (5)															
CHOL3 250	CHOL3 500	CHOL3 800	CHOL3 1600	CHOL3 250	CHOL3 500	CHOL3 800	CHOL3 1600	CHOL3 250	CHOL3 500	CHOL3 800	CHOL3 1600	CHOL3 250	CHOL3 500	CHOL3 800	CHOL3 1600
1626	2354	2356	2358	2360	2362	2364	2366	2368	2370	2372	2374	2376	2378	2380	2382
no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Gamma-actin, cytoplasmic	1.6725786	3.1347418	2.8372396	1.0166708	1.0337392	1.1692146	1.4031113	1.029407	0.9292655	0.8338789	1.0776893	0.7838244	1.0323114	1.0323114	1.0323114
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
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Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
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Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
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Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
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Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
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Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
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Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
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Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.0296881	1.0296881	1.0296881
Phase-1 RCT-145	1.6884824	1.2421478	1.8937154	2.0073514	1.0311143	1.0466523	1.2440243	1.1851847	1.1333658	1.0370014	1.0323114	0.9715688	1.029		

Phase-1 RCT-49	2.171106	1.2508095	1.7201018	2.7135632	0.97987837	1.0413764	0.9833307	1.0567831	1.0936528	0.787351	0.93678006	0.95185026
Calgranulin B3	1.9398004	1.2954516	1.8307228	1.8989784	1.4765483	1.0487964	1.2329398	1.1430113	1.2300918	1.154293	0.9979469	1.1335856
NADP-dependent isocitrate dehydrogenase	0.5407414	0.7419004	0.64526695	0.53778765	1.006731	1.1320087	0.91455543	0.94477904	1.0605622	1.5760498	0.8050816	1.0377098
Cytosolic	0.90807426	0.85688516	0.74900126	0.87831305	1.1910448	1.0705073	0.86885534	0.78486185	0.91740596	1.044444	1.3104832	1.0299175
Chaperone binding protein 1	0.8446514	0.7918007	0.6303394	0.811914283	0.5698975	0.3529743	0.35803064	0.36615904	0.78851103	0.86521304	0.65872674	0.8705533
Sodium/bicarbonate cotransporter	0.89091027	1.303573	0.9337251	0.8775977	0.7849	0.8369302	0.61197424	0.63710185	0.69252044	1.130899	0.8445937	0.87567668
Phase-1 RCT-774	0.8999019	1.0923002	0.7869397	0.87948127	0.5551181	0.5439663	0.54806805	0.5657731	0.5913988	1.402883	0.80148074	0.8224838
Inositol polyphosphate multikinase (Imk14)	0.5101573	0.58313365	0.4857754	0.5136571	1.1576398	1.221213	1.8757322	0.9112698	0.5811398	0.437514	0.87184454	0.76972485
Phase-1 RCT-266	0.3920282	0.6655482	0.38030937	0.30344102	1.7330086	1.8600948	1.5241872	1.4908304	1.5264934	0.5318754	1.152052	0.9915163
Equilibrative nucleoside triphosphate-sensitive	0.55851847	0.49598624	0.30207005	0.22751956	0.48801377	0.5103079	0.5556062	0.4352173	0.36977416	0.6268845	0.83253281	0.9335281
Nucleoside transporter	0.74193525	0.8206916	0.7183335	0.6016049	1.2135341	1.198578	1.0371338	1.2301304	0.8376017	0.8640477	1.1205463	1.2543888
CDK102	0.74099668	0.84431463	1.0081911	0.8187826	1.1902745	0.9589334	0.9453239	0.8434846	0.8798121	1.0182831	0.90894908	0.9927824
Phase-1 RCT-209	0.63538766	0.69990195	0.5064694	0.37739784	0.70002043	0.9468368	0.8289236	0.7778639	0.80533063	0.9892921	0.7635927	0.7030782
NADH-cytochrome b5 reductase	0.6401772	0.9444392	0.8206298	0.7895016	1.2720165	1.0785752	0.98381015	0.7902838	1.114723	0.8485153	1.0052273	1.0230665
Dynamin-1 (D100)	0.28571764	0.17731023	0.12913058	0.0896802	0.776016	0.7185233	0.55802315	0.39178944	0.570138	1.2732934	0.8884392	1.0504204
Sensory marker protein-30	0.762353	0.8087208	0.532439	0.4485516	0.8273964	0.7762686	0.6923449	0.58293074	0.94359547	0.86704373	0.90516204	1.3151957
Phase-1 RCT-89	0.8939845	0.8252126	0.7687724	0.8312542	0.9427384	1.1708144	0.89581895	0.9197887	0.99259084	0.9197887	1.188918	1.125668
Carbonyl palmitoyl-CoA transferase	0.5402005	0.45409722	0.434246	0.3474565	0.74969476	0.44271663	0.70958406	0.58946206	0.53348154	0.28047796	0.93944003	0.87043373
Alpha-2-microglobulin	0.7942625	0.77774477	0.7203525	0.8109008	0.8158238	0.6894104	0.7556933	0.8916003	0.78410363	1.3529702	0.9270976	1.01719953
Apoptoprotein C11	5.1170008	2.444574	3.697106	2.7640478	1.488618	0.974178	0.97725224	0.8147193	1.3529702	1.214723	1.0773492	1.01719953
Phase-1 RCT-141	1.2638893	1.4726868	1.9433125	2.2563689	1.2627317	1.1784948	1.0544218	1.8178947	0.7005904	0.68325925	0.79201216	1.5229833
Phase-1 RCT-289	0.8344774	0.8025783	0.76550816	0.6501392	0.7320583	0.81249917	0.6988516	0.65072176	0.7005904	0.68325925	0.79201216	1.5229833
Endothelin-1	0.89322045	0.8645367	2.4000793	1.0844664	1.000449	1.2644745	1.438778	1.2888235	1.2571071	1.1383813	1.117821	1.1335326
Phase-1 RCT-182	1.058933	0.95786293	0.9718093	0.96337015	0.91248035	0.8286812	0.80064237	0.7650189	0.8487753	1.058316	0.9574204	0.850486
Phase-1 RCT-240	1.231878	0.99452883	1.2545756	1.3147918	1.4209918	1.0836681	1.1289424	1.3589631	1.1460073	1.2695005	1.0527865	0.9273084
Cyclin D1	1.3749748	0.8529594	0.87381047	0.98352828	1.2063714	1.355942	0.82284985	0.5531554	1.1460073	1.2695005	1.0527865	0.9273084
Phase-1 RCT-287	0.70109403	0.86124685	0.70889535	0.7212929	1.0307788	1.2014189	1.0034948	1.380811	1.3302016	1.0650374	1.4010142	1.0670789
Phase-1 RCT-281	1.0016257	0.9457893	1.0062927	0.9130943	0.2913182	0.85438993	0.7312929	0.6962252	0.8534765	0.9487918	0.9021042	0.881531936
Retinol-binding protein (RBP)	0.77480944	1.057812	0.80086085	0.88254646	0.5090979	0.5005684	0.6411443	0.5905469	0.85053927	0.6938275	1.1300341	1.015434
ATP-stimulated glucocorticoid-receptor	0.4400816	0.6137266	0.43754156	0.42798383	0.6039061	0.7946843	0.7533017	0.5636444	0.5701556	0.6376737	0.95063964	0.9287493
Translocation promoter (GYS)	1.5137877	1.0281873	1.3654495	1.4788381	0.6660577	0.8074514	0.8481272	0.9085512	0.9080872	1.0085512	0.9080872	0.9154597
Phase-1 RCT-60	2.168049	2.101238	2.3127798	2.265517	1.395751	1.0489942	1.0295482	1.112782	1.3712765	1.8185285	0.7681569	1.544617
Pyruvate kinase, muscle	1.3892258	1.0470545	1.5827643	1.8112822	0.7980454	0.9836228	1.0033088	1.0598166	1.0597555	0.92311573	1.049834	1.0367074
PAR interacting protein	1.1105108	1.211217	1.6729065	1.1620513	0.9310227	0.91812164	0.98878676	1.3605321	1.1420827	1.1557337	1.8733311	1.0044122
Nucleoside diphosphate kinase beta isoform.	1.6915423	1.2855892	3.0381364	2.9541683	1.7389918	1.0445368	1.2607881	1.3025993	1.106625	0.8940916	0.94116515	1.2518166
Gadd153	2.9222531	1.3189442	1.884494	2.4675303	1.6317882	1.6031484	1.5776028	1.2130103	2.0580611	0.81872094	0.8836901	1.4721028
Insulin-like growth factor binding protein 1	0.37888384	1.2015506	1.0392032	1.0117741	0.87525173	1.3131206	1.1289127	1.3974054	1.3004295	1.2286939	0.8330181	1.1742551
G-H-ras	0.30853784	0.26904226	0.13114235	0.15727775	0.50777173	0.5331641	0.47785357	0.4031989	0.4145576	0.4318642	0.786662	1.0482459
N-hydroxy-2-acetylaminofluorene	0.4295583	0.6032386	0.43793392	0.25337124	0.6764254	0.84142035	1.0350132	0.8180365	1.1423659	1.303034	0.8380112	0.8529898
Sulfotransferase (S11C1)	0.2984398	0.63249284	0.43020087	0.43020087	0.8532809	0.6721681	0.50520635	0.5383828	0.583702	0.9722624	0.724589	0.8207206
Phase-1 RCT-62	0.6281517	0.6681748	0.6757504	0.49595124	1.2831088	1.2889535	0.928334	0.83175015	0.8180779	0.95248233	0.94274145	0.9616438
Alpha 1 - inhibitor III	0.8939853	1.182246	0.7864281	0.51404744	1.3175968	1.4536006	0.9788471	0.6902948	1.082787	0.6957008	1.7580377	1.1484802
Sterol carrier protein 2	0.89133558	0.7128166	0.80028484	0.85588184	0.748898	0.886693	0.88318785	1.0668906	0.8784125	0.88430985	0.9111136	0.9839418
Organic anion transporter 3	0.89133558	0.7128166	0.80028484	0.85588184	0.748898	0.886693	0.88318785	1.0668906	0.8784125	0.88430985	0.9111136	0.9839418
Calgranulin B4	0.6963984	1.038103	0.6816375	0.8025111	0.7886284	0.8853326	0.8484109	0.88797593	0.84555814	0.770283	1.2042272	0.7678316
Phase-1 RCT-182	0.6963984	1.038103	0.6816375	0.8025111	0.7886284	0.8853326	0.8484109	0.88797593	0.84555814	0.770283	1.2042272	0.7678316
Calgranulin B8	0.6963984	1.038103	0.6816375	0.8025111	0.7886284	0.8853326	0.8484109	0.88797593	0.84555814	0.770283	1.2042272	0.7678316
Aldehyde dehydrogenase, microsomal	0.56153536	0.7516701	0.76253	0.84973575	1.277926	1.0959907	1.0094928	1.068543	1.077802	1.0665894	1.150416	1.1214892
Phase-1 RCT-128	0.3823458	0.8420434	1.0167604	0.89277714	1.1015084	1.0157777	0.90331733	0.8764695	0.5434216	0.7183784	0.9893356	1.0083009
Phase-1 RCT-102	0.7425502	0.5413785	0.6204884	0.58277687	0.8434557	0.8632546	0.5806188	0.679148	0.84773207	0.82817404	0.96772804	0.7123037
Preprocalcitonin, sequence 2	0.41577742	0.9402708	0.79423084	0.5955287	0.7123509	0.76730345	0.89887484	0.9204225	0.76762086	0.5764801	1.0747569	0.73861444
Phase-1 RCT-10	0.41577742	0.9402708	0.79423084	0.5955287	0.7123509	0.76730345	0.89887484	0.9204225	0.76762086	0.5764801	1.0747569	0.73861444
Apoptoprotein AII	0.56967735	0.8403671	0.8349148	0.56288826	1.0071099	1.035238	0.956648	1.0531133	0.934739	0.79703647	1.099778	0.8800505
Phase-1 RCT-48	0.7713823	0.7941555	0.6073359	0.9775993	0.79842748	1.200415	0.9452223	1.0503836	0.73353255	0.70656276	0.87632575	1.0195045
Phase-1 RCT-48	0.7713823	0.7941555	0.6073359	0.9775993	0.79842748	1.200415	0.9452223	1.0503836	0.73353255	0.70656276	0.87632575	1.0195045
Phase-1 RCT-8	0.5460742	0.867228	0.889975	0.61659616	0.7436876	0.81092745	0.9416844	0.82108206	0.732091	0.5881783	1.1133372	0.730883

Table 29

Phase-1 RCT-168	0.6214957	0.85984373	0.6615893	0.5681368	0.8644471	1.1974081	0.97594535	1.0983257	1.1990459	0.7025182	0.8263165	0.97617068	0.9521159
Phase-1 RCT-168	0.4764174	1.0582324	0.77100515	0.7260993	1.1475767	0.9766096	1.3402203	1.1951885	1.2513545	0.8992788	0.8263165	0.97617068	0.9521159
Phase-1 RCT-168	0.49489406	0.59309256	0.48302894	0.54631907	1.1745767	1.1614509	1.1614509	1.2965245	0.96613074	0.9765596	0.9765596	1.2848042	0.98263425
Phase-1 RCT-230	0.10991978	0.30217764	0.22438249	0.14706162	0.8860239	1.3135695	0.86818117	0.55923494	0.32628968	0.20818968	0.49274554	1.2006739	0.6070795
Carbonic anhydrase III	0.1007272	0.14827509	0.12439881	0.078796945	1.3108652	1.3841124	0.68818117	0.55923494	0.32628968	0.20818968	0.49274554	1.2006739	0.6070795
Phase-1 RCT-281	0.5617197	0.8611236	0.562176	0.55561763	1.0551342	1.1681826	1.0382669	0.82649499	0.89026033	0.93828037	1.2458768	0.9262837	0.7624245
Carbonic anhydrase III, sequence 2	0.42348588	1.2046717	0.7284644	0.49059132	0.89235886	0.82771367	1.1389287	0.83619287	1.1556429	1.0055387	1.1228882	0.9505983	0.7340287
Phase-1 RCT-271	0.6158222	0.6476788	0.5728626	0.45472638	0.771524	1.15324	0.91678168	0.7965316	0.8888557	0.92082286	0.7097346	0.8934405	0.8655503
HMG-CoA synthase, mitochondrial	0.68676073	0.7501668	0.5728626	0.45472638	0.771524	1.15324	0.91678168	0.7965316	0.8888557	0.92082286	0.7097346	0.8934405	0.8655503
Phase-1 RCT-169	0.6589597	0.7368508	0.5661494	0.4601151	0.8085518	0.6040195	0.50483924	0.51428368	0.5303346	0.48215374	0.8605966	0.7623483	0.8540801
Phase-1 RCT-40	0.2747284	0.4126889	0.40390002	0.3796843	0.44739625	0.4745523	0.21334682	0.1917455	0.92875865	0.8191475	0.45535308	1.0643368	0.4745523
Uridine protein 2 precursor	0.21266189	0.29882672	0.24823976	0.21334682	0.1917455	0.92875865	0.8191475	0.45535308	1.0643368	0.4745523	0.45535308	1.0643368	0.4745523
Paraoxonase 1	0.28633418	0.6240938	0.38583002	0.49117807	0.32655344	1.4207782	1.7188926	1.0791998	0.8868578	0.8529415	0.7815947	0.7417038	0.8038043
Liver fatty acid binding protein	0.41291872	0.65618504	0.49117807	0.32655344	1.4207782	1.7188926	1.0791998	0.8868578	0.8529415	0.7815947	0.7417038	0.8038043	0.8529415
Phase-1 RCT-36	0.5247004	0.8135929	0.61454175	0.45535308	1.0643368	0.4745523	0.45535308	1.0643368	0.4745523	0.45535308	1.0643368	0.4745523	0.45535308
Phase-1 RCT-270	0.4018887	0.45556165	0.38583002	0.49117807	0.32655344	1.4207782	1.7188926	1.0791998	0.8868578	0.8529415	0.7815947	0.7417038	0.8038043
Transferrin	0.70654593	0.46004468	0.48241787	0.6304408	0.7185957	0.8227764	0.50483924	0.51428368	0.5303346	0.48215374	0.8605966	0.7623483	0.8540801
Cytochrome P450 11A1	0.76590088	0.92924464	0.8307279	0.66877688	0.24414672	0.93033038	0.33001232	0.49780225	0.81692274	0.8453227	0.93033038	0.33001232	0.49780225
Phase-1 RCT-175	0.8633762	0.8822185	0.95031714	0.5381807	1.7814674	0.93033038	0.33001232	0.49780225	0.81692274	0.8453227	0.93033038	0.33001232	0.49780225
Phase-1 RCT-137	0.4725038	0.6205985	0.49541178	0.80139704	1.9381273	1.670123	1.3210908	0.40047783	0.74740785	1.028384	0.7622894	0.951409	0.7622894
Phase-1 RCT-117	0.6672357	0.93248135	0.8153182	0.78724146	0.45532373	0.5286552	0.476658	0.40047783	0.74740785	1.028384	0.7622894	0.951409	0.7622894
Melanoma-associated antigen ME491	1.3781602	1.1710653	1.2268601	1.4689724	0.886367	1.0736353	0.9857694	1.0015023	0.97840834	0.9688131	1.013202	0.9736744	1.0260717
Phase-1 RCT-12	1.2765582	1.0106765	1.5683204	1.318987	0.87696705	1.0238414	1.0178968	1.0708034	0.9488527	1.2084297	0.7116929	1.1672189	0.9478773
Phase-1 RCT-162	2.091083	1.2810138	1.3480449	1.523497	0.771147	0.8413474	0.7373906	0.80229015	0.82010853	0.7486445	1.1684348	0.9144024	0.9834285
14-3-3 zeta	1.8416331	1.212394	2.0705866	1.3541808	1.3520288	0.8678749	1.504013	1.5475848	1.3681266	0.94236887	0.80747404	1.2143973	1.20523
Cytochrome P450 2C23	0.4660769	0.57598126	0.32476246	0.30310202	0.71391326	0.8678749	1.504013	1.5475848	1.3681266	0.94236887	0.80747404	1.2143973	1.20523
Voltage-dependent anion channel 2 (Vdac2)	1.6781572	1.1982428	1.3465986	1.0343394	1.5040062	0.8678749	1.504013	1.5475848	1.3681266	0.94236887	0.80747404	1.2143973	1.20523
Phase-1 RCT-154	1.7242904	1.3795067	1.5410916	1.662294	1.1497728	0.86636276	1.2215265	1.1662238	1.1053346	0.9980789	1.0005022	0.958887	0.9993956
Superoxide dismutase Mn	1.5704393	1.8049231	1.5720065	1.8571825	1.3448866	1.2012965	1.4254324	1.4428531	1.8017439	1.094141	0.8648563	1.5747628	1.5586021
c-myc	1.7830541	1.2959595	2.102004	3.678985	1.2159842	1.001932	1.3436788	1.1122122	1.182342	1.6878546	1.7297822	1.1620953	1.0162963
Phase-1 RCT-186	1.402073	1.0802692	1.3468215	1.5347892	0.87332155	0.43331334	0.6514935	0.4816716	0.53351545	1.0011816	0.9853811	1.3043832	1.1120769
Cyclin G	1.2865088	1.7635794	2.2098337	2.8959518	2.0284478	0.83549368	1.0905935	1.2311877	0.9744823	1.3104947	2.2622184	1.161812	1.7081167
Cytochrome B5	1.3869592	1.0603475	1.378187	1.1611443	0.9148908	1.0283021	0.968949	1.0234778	1.0392927	0.89401028	1.1161365	0.9478864	0.8328784
Phase-1 RCT-205	1.2712582	1.0334775	1.3105584	1.7285874	0.81014216	0.8596918	0.9565604	0.86633834	0.9518508	1.1121995	0.9460027	1.0381862	1.0384188
Phase-1 RCT-68	1.2889751	1.235216	1.7443765	1.3422408	0.75361808	0.8819218	0.68845596	0.98982184	1.4533911	1.1268716	0.7667105	1.1600553	1.2885763
Caspase 3	0.8655996	0.88519253	0.9413176	1.1898008	0.75361808	0.8819218	0.68845596	0.98982184	1.4533911	1.1268716	0.7667105	1.1600553	1.2885763
Alpha-tubulin	1.3164428	1.0752157	1.096357	1.678667	1.1382895	1.3612238	1.221916	1.2862107	1.3444145	0.88384227	0.947473	1.1435415	1.137976
Ribosomal protein L13A	2.2113428	1.6666081	1.830172	1.5859555	1.8261197	1.5323265	1.3265055	1.8739731	1.808224	0.6884468	0.8851767	1.638532	1.248985
lgE binding protein	2.0075607	1.9184984	1.7290056	2.2816997	0.9575979	1.2433645	1.349628	1.377786	1.0491628	0.8774416	0.867948	0.84034823	1.0248312
Phase-1 RCT-39	1.7218309	1.3727522	1.3087801	1.2684821	1.6215599	1.4115503	1.349628	1.377786	1.0491628	0.8774416	0.867948	0.84034823	1.0248312
Cofilin	1.2163618	1.2784184	1.2888422	1.1379477	0.802887	0.8435684	0.9640533	0.8986427	0.76628885	0.8727799	1.3761318	0.757438	0.87069406
Heme oxygenase	2.2270393	1.4161971	1.9007862	4.472455	0.8944517	0.702809	0.7304468	0.80510436	0.64940417	1.5475765	0.8510598	0.9372743	0.7161879
Phase-1 RCT-241	1.5093951	1.2494702	1.4005888	1.8080331	0.7257883	0.6371857	0.6926009	0.60145855	0.7170287	0.91460043	1.5035032	0.8923761	1.0546091
Ribosomal protein S9	1.1838602	1.3214	1.8653782	1.5884333	1.0625682	0.985078	0.9353327	1.128812	0.95940274	1.1790066	0.9807894	0.992701	1.0546091
Phase-1 RCT-258	1.7928323	1.4302068	1.5394285	1.584285	1.0625682	0.985078	0.9353327	1.128812	0.95940274	1.1790066	0.9807894	0.992701	1.0546091
Argininosuccinate lyase	1.8944308	1.2572634	1.8287834	1.7213008	0.98619616	0.94893565	0.97155553	1.038763	0.94594777	1.6028701	1.5380939	1.0831708	0.9510201
Phase-1 RCT-180	1.5051448	1.2572634	1.8287834	1.7213008	0.98619616	0.94893565	0.97155553	1.038763	0.94594777	1.6028701	1.5380939	1.0831708	0.9510201
Multidrug resistant protein-1	4.234022	0.4841467	3.405561	0.958881	1.2739258	1.2739258	1.2739258	1.2739258	1.2739258	1.2739258	1.2739258	1.2739258	1.2739258
Omitrine decarboxylase	1.8628675	1.813572	1.6748557	1.5710407	1.493226	1.6334985	1.7623339	3.480216	3.8108651	2.2089513	0.3420263	0.9507311	1.1665722
Thymosin beta-10	1.9403309	1.3332051	1.3714188	1.3946064	1.135687	1.0744566	0.9904342	0.94936805	0.8320233	0.9641114	0.97641785	0.9330528	0.9330528
Phase-1 RCT-72	1.8651091	1.60208	1.3969826	1.529359	1.445945	1.1852088	1.0831156	1.103814	1.2159032	0.6416536	0.7212179	1.2153028	1.4858807
Phase-1 RCT-109	0.91591884	1.0212308	0.82519826	1.1879162	1.135248	0.8651572	0.8284944	0.96766827	0.6727446	0.6888051	0.8622183	1.0286807	1.0286807
Phase-1 RCT-76	0.948192	1.2173618	1.1015438	1.5294667	0.7621768	0.46128958	0.4883452	0.44128874	0.48827126	0.8788094	1.1652225	0.5837636	0.74942803

Table 28

Phase-1 RCT-168	2.2872322	1.0703703	1.4016111	1.5840274	1.0344343	0.8563261	0.9348846	1.0812653	0.77837794	1.5613852	0.99735534	1.0304721	1.0864664
Phase-1 RCT-113	1.2038136	1.2971843	1.1808667	1.5307461	1.0099742	0.84838414	0.89861076	1.0359817	0.78419071	1.1118205	1.0426553	1.0100263	1.0569847
Endogenous retroviral sequence, 5' and 3'	0.8517811	1.9804286	0.84681493	1.4088309	0.7794915	1.4570918	1.1854516	1.2431531	1.539076	0.50623467	0.56461406	1.2685239	1.4342458
LTR													
Beta-actin	2.975467	1.825167	3.8749194	1.2742553	1.8392432	1.0995865	2.2815988	3.8257785	2.5394576	0.85543354	0.88679195	1.0397253	1.5636849
Phase-1 RCT-65	1.149808	1.298894	1.2658174	0.9630986	1.4116539	1.4356123	1.1785527	1.1819371	1.115887	2.0978778	0.94284207	1.0492948	0.8185152
MHC class I antigen RT1.A10. alpha-chain	1.831302	2.0193954	2.7152183	1.2954053	1.8512289	1.1982244	1.283734	1.0478708	0.9400376	4.6248874	1.0354873	1.0349331	0.9016788
Bax (alpha)	0.9587475	1.1484725	1.1948808	1.2294995	1.8221621	1.197836	1.525851	1.1939331	0.8819819	1.868778	1.0283289	1.2830487	1.1195355
Carbonic dehydratase	1.581004	1.3940912	1.6068825	1.7447444	0.79923314	0.8595781	0.8156652	0.7842246	0.9103994	1.292412	1.2107765	1.0316017	1.1252222
Beta-actin, sequence 2	1.7039471	1.6030809	1.6907125	1.3246548	0.77629006	0.92639244	0.9754665	1.1575774	0.9068688	0.5332612	0.59130627	1.2835201	1.0428021
Interleukin-10	1.8509511	1.3351427	1.3174982	1.3448355	1.4071083	1.3141787	1.2765925	1.1747713	1.3248788	1.1924308	0.89421856	1.052281	1.074933
Phase-1 RCT-181	1.6925854	1.288703	1.8168823	1.2683978	0.94188968	0.72313505	0.7399314	0.84228237	0.6224721	2.3776848	1.0801154	0.92923445	0.8220789
Phase-1 RCT-111	0.83757707	1.1372283	0.82023644	1.1431997	1.0372194	1.071294	0.9105033	1.0534148	0.7938695	0.7973827	0.7310391	1.1141933	0.8745084
Apoptosis-regulating basic protein	0.631881	0.9894239	0.9673003	0.4648233	1.1319671	1.1931175	1.1241987	1.1240153	1.0734001	0.6625461	0.8301615	0.7873685	1.1340067
Glutathione peroxidase	0.3558181	0.42180836	0.71958536	0.76535418	1.2489941	1.0444444	0.7859958	0.5332434	0.51320326	0.5851469	0.9701291	0.6996814	0.67146355
Phase-1 RCT-239	0.60219836	0.7782507	0.6643653	0.6013878	1.3705828	1.5416204	1.2209153	1.0724903	1.3308428	1.8431084	1.0658231	0.9572584	0.77431405
Phase-1 RCT-87	1.0033432	0.8782019	0.83650186	0.89496154	0.8810115	0.9015412	0.86320494	0.89747304	0.7594115	1.305402	1.0209013	0.93133044	0.825897
Tryptophan hydroxylase	0.95133324	0.8522297	0.7389817	0.48455912	1.2662156	1.23707	0.9399862	0.8096331	0.85352194	0.73457974	0.9305915	0.9775388	0.99731255
Sulfotransferase K2	0.7165428	0.8855714	0.74275	0.9394485	0.84636107	0.8568887	0.81068316	0.9267026	0.8445323	0.8898014	0.5919502	1.1351444	1.4801426
Calgranulin B9	0.86481198	1.1506449	0.86380404	0.8871895	1.2070584	0.9417501	0.93928094	0.9047302	0.9276012	0.894972	1.1610653	0.84358543	0.71989867
Phase-1 RCT-123	0.7602638	0.8368164	0.818298	0.79163545	0.843584	0.98346688	0.87320075	0.8648763	0.85223818	0.89410264	1.0372825	0.87346198	0.7869134
Phase-1 RCT-88	0.87884134	0.9238155	0.8479694	0.8899511	1.0581829	0.89615715	1.0355904	0.89381237	0.9178972	1.2348763	0.8922128	0.9803889	1.0121502
Aquaporin-3 (AQP3)	0.1659379	0.05001978	0.064122625	0.108351946	0.18433043	1.5288683	0.3368624	0.32819416	0.15513407	0.09878019	0.050004993	0.5475424	0.16062763
Sleazy-CoA desaturase, liver	0.68657213	0.7948851	0.83768697	0.5070482	1.1261338	1.1688457	1.1408103	0.9702851	1.1728578	1.3008895	1.1831732	1.0196224	0.77084696
Phase-1 RCT-94													
(1) Gene expression data for 24 hour													
timepoint are presented as mean ratio of													
treatment/control for all 24 hour predictive													
genes (Table 5).													
(2) Compound and dose abbreviations as in													
Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for													
compound-dose group at 72 hr: yes-neo,													
neutroils observed; yes-both, necrosis with													
inflammation observed, no, no histopathology													
observed													
(5) Predictive gene (as in Table 5 and as													
included in Table 28)													

Table 29

[illegible]

Table 29

Phase-1 RCT-49	1.06024	1.0177445	1.0266343	1.09648	0.8498006	0.874466	0.93301284	0.8872038	1.051889	1.0978701	1.0818949
Calgranulin B3	0.98929485	1.0386674	0.9940351	1.0394609	0.9716977	0.91871125	0.9803035	0.91027828	0.964063	1.0588464	1.0921537
NADP-dependent isocitrate dehydrogenase, cytosolic	0.9602389	0.9595545	1.0616525	0.85026914	1.163289	1.0779126	0.89670607	1.1284571	1.0915675	0.8578707	1.074269
Oxyster binding protein 1	0.9781098	1.0186948	0.98702314	0.9211741	0.9520057	1.0349911	1.0507383	1.0574642	0.9686282	0.85039204	1.0393502
Sodium/bile acid cotransporter	0.7377493	0.8389525	0.7423678	1.1489938	1.3909478	1.3909478	1.32358	1.1634454	0.96777668	0.8784048	0.8489499
Phase-1 RCT-174	0.9039904	0.9016024	1.0512846	1.1379716	0.8837241	0.7845728	0.8807546	0.94294214	1.0231088	1.0502193	0.85916075
Phase-1 RCT-177	0.8985463	0.85862495	1.064943	0.95455213	1.1284634	1.0130427	0.9926044	1.0791278	1.0958847	1.0118774	0.9563926
Phase-1 RCT-178	0.856275	0.85350803	0.83887875	0.8123741	1.1039388	1.1787496	0.94000405	0.983528	0.6578118	0.60657173	0.81278874
Inositol polyphosphate multikinase (Imk)4	0.9034677	0.8178944	1.0350818	1.0087814	1.1925324	1.2427804	1.1180465	1.05008	0.80813416	0.78147674	0.8570878
Phase-1 RCT-256	0.8881862	1.0215355	0.9613569	0.9915086	1.0761766	1.0680946	0.9584897	1.034184	1.0643631	0.9689578	1.7501226
Equilibrative nitrobenzylthioinosine-sensitive nucleoside transporter	1.150708	1.1552822	1.2528842	1.1403394	1.0964924	1.0491545	1.007217	1.0215887	1.0050334	0.85917517	0.91100365
CDK102	0.72548838	0.87068385	0.89927	1.0196888	0.9675802	0.9807237	1.0437438	0.9122109	0.889552	0.8891326	0.93140598
Phase-1 RCT-209	0.7343568	0.8189498	0.7288842	0.897753	1.2209314	1.051618	0.9071746	1.0159075	1.3084172	0.8234901	0.9904128
NADH-cytochrome b5 reductase	0.8908569	0.9902128	1.0824605	1.1738011	1.023684	0.93019846	0.9578129	0.9103999	0.8785165	0.79251224	1.0328974
Dynamin-1 (D100)	0.84804183	0.9684312	0.9954882	0.9643821	0.9815532	1.2791438	0.987338	1.120892	0.894876	0.6514168	0.72133607
Sensitization marker protein-30	0.89617866	1.0506935	1.1200917	0.959862	1.102487	1.0727208	0.987338	1.1413121	0.9235765	0.85074335	0.8709819
Phase-1 RCT-49	1.0388016	1.2547956	1.1058463	1.8397868	0.9635224	1.6530576	1.5233225	0.9075318	0.9235765	0.85074335	0.8709819
Carnitine palmitoyl-CoA transferase	0.91948846	1.1803084	1.051251	0.8823768	1.4627262	1.0160167	1.2225819	0.39540347	0.8533144	0.7320705	0.9001038
Alpha-2-microglobulin	1.3068873	1.1845015	1.178908	1.2709462	1.2015884	1.0319034	1.0470655	0.8804853	0.88220778	0.7708933	0.8765931
Apolipoprotein CII	0.95653474	1.0829068	0.9754005	0.837841	1.239463	1.2705245	1.1858972	1.1103008	0.9103449	0.8009053	0.85914359
Cathepsin L, sequence 2	2.1694722	1.244625	0.8384544	0.7490167	1.1542801	1.0301408	1.0540894	0.97838704	1.4024595	1.1011268	2.2189558
Phase-1 RCT-141	0.82863764	0.9578206	0.9941006	0.97711927	1.0027802	0.8876828	0.91281506	0.8640559	0.90989894	0.8619611	0.8567279
Phase-1 RCT-289	1.073933	1.1778376	0.92051035	1.111776	0.8839419	0.8775165	1.287673	0.9248556	1.06131	1.3097556	1.8195324
Endothelin-1	1.1556412	0.82782048	0.85197004	1.621212	0.8880876	0.8720048	0.969216	0.926171336	0.8762859	0.979372	1.0527328
Phase-1 RCT-140	0.8442213	1.0328382	1.006603	1.032006	0.9544881	1.0558784	1.1642538	1.7004826	0.85399157	0.9673972	1.0260841
Cyclin D1	0.64915913	0.8552159	1.0525079	1.273877	0.81636184	1.065874	1.1642538	1.7004826	0.85399157	0.9673972	1.0260841
Phase-1 RCT-287	1.0180698	1.1077855	0.9333112	0.8327704	1.284128	1.300108	1.040669	0.87178094	0.8175978	0.9109537	0.89346477
Phase-1 RCT-281	0.7898638	1.1808523	0.8359596	1.0763597	0.954708	0.954708	0.81738698	1.0543511	0.7807816	0.7486816	0.85257816
Raf-1-binding protein (RBP)	0.82728004	1.054555	0.84576108	1.376917	1.1778019	1.0078775	1.0332885	0.9804967	1.1733873	0.8719145	0.89804167
ATP-activated glucocorticoid receptor	0.98478323	1.2783332	1.0230447	1.0628188	1.0595266	1.2160704	1.1291646	1.0321511	0.9703386	0.69284177	1.0463225
translocation promoter (GyA)	1.054982	0.8886475	0.921171	0.98323084	0.841836	0.91334516	0.9499988	1.0887412	0.9898448	1.2284889	1.1524435
Phase-1 RCT-60	0.9138776	0.9254128	0.9065152	0.91559404	1.0343441	0.92815964	0.98966346	1.1143987	1.0948675	0.9207208	0.9015798
Pyruvate kinase, muscle	0.97927624	1.010814	0.95548275	1.086781	0.8530467	0.8689889	0.97205096	1.0335934	0.938502	0.99059023	0.87753847
PAR interacting protein	1.0339017	0.8011803	0.94074565	0.77541095	1.007616	1.1206173	1.0439778	1.1101897	1.3020135	1.2315216	0.8088485
Nucleoside diphosphate kinase beta isoform	1.1097338	1.2237183	0.96087853	1.0080427	0.87781376	1.0059088	1.0837454	1.0934828	1.049213	1.096287	0.87374328
Gadd153	1.504116	1.680814	1.5471333	1.1587747	1.0503203	1.0420596	0.8396124	1.4650488	1.2531165	1.5121571	1.2017453
Insulin-like growth factor binding protein 1	1.405547	1.056907	0.9703254	0.80161268	0.96397504	0.8933715	0.9742775	1.0644952	1.1016494	1.1547298	0.9677875
c-H-ras	0.8401808	1.0132732	1.009149	0.91208214	1.2311027	1.2570467	1.1288201	0.6866333	0.9697854	0.9228205	1.3558375
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	1.1108055	0.5700699	1.002182	0.6370867	1.0487976	1.2357448	1.0091151	1.235016	1.2305869	1.3425889	1.1312262
Phase-1 RCT-52	0.5719046	0.9078235	0.8683121	0.7781227	0.90537524	1.4565855	1.1119854	1.113497	0.5575254	0.7400015	0.6692248
Alpha 1 - inhibitor III	0.83763304	0.7115717	0.8862056	0.69723976	1.2807417	1.3169249	1.1078243	1.2267154	1.1068736	1.2457397	0.833953
Steroid carrier protein 2	0.89055804	1.0027584	1.0872981	1.2428385	1.28996	1.0508424	1.2768179	1.3698672	1.2174009	0.98710024	0.83323146
Organic anion transporter 3	1.0081619	0.59789756	0.820483	0.6527692	1.0136073	0.9534135	0.8541256	0.9200357	0.86504873	1.004252	0.8699653
Calgranulin B4	0.73747769	1.0332078	1.0706137	0.9593107	1.2230082	1.0119786	1.0263534	1.093088	1.0522426	1.3565948	0.9692158
Phase-1 RCT-182	0.7273083	0.9553136	1.0593894	0.833992	1.4531603	1.2831284	1.1656098	1.2638724	0.86603504	1.0662146	0.8013608
Calgranulin B8	0.4046867	0.940525	1.0054383	0.8521644	1.1041787	1.0348518	0.92441434	0.86045765	0.9102558	0.8832258	0.96617633
Aldehyde dehydrogenase, microsomal	0.4598193	0.3358186	0.520518	0.6876589	0.64731205	0.87732124	0.85324603	0.47095102	0.4268305	0.35595294	0.75105008
Phase-1 RCT-128	0.7078458	0.6860597	0.9251844	0.7312459	1.3398787	1.2512723	0.9555507	1.0876636	0.6744202	0.8299048	0.88517704
Aldehyde dehydrogenase, sequence 2	1.5344063	0.9594896	0.9472874	0.9108528	1.422669	1.422669	0.8436313	0.7547723	1.2831333	1.1480535	0.7712514
Preproalbumin, sequence 2	0.7078458	0.6860597	0.9251844	0.7312459	1.3398787	1.2512723	0.9555507	1.0876636	0.6744202	0.8299048	0.88517704
Apolipoprotein AII	0.9942739	0.9190809	0.79037724	1.2047232	1.055468	0.8933729	0.8715968	0.81609478	0.82541835	0.890004	0.8220012
Phase-1 RCT-10	0.9837492	0.7891087	1.045112035	0.8020264	1.0534043	0.95551	0.94352438	0.8855873	0.72537	0.811059	0.8201005
Phase-1 RCT-49	0.8881862	1.0215355	0.9613569	0.9915086	1.0761766	1.0680946	0.9584897	1.034184	1.0643631	0.9689578	1.7501226
Phase-1 RCT-6	0.7523313	0.7220283	1.0325383	1.3848809	1.243558	0.9728906	1.1281309	0.8799699	0.6386255	0.9389899	0.8446962

Table 29

Phase-1 RCT-168	1.1161588	1.024108	1.0241808	0.937628	0.98822915	0.96853183	1.1388818	1.0466332	1.0800414	0.955419	1.1754576	0.89058873
Phase-1 RCT-169	0.8947768	0.8257543	0.80162705	1.2358864	0.9076201	0.9076201	1.0276941	1.3625522	1.0369705	0.82342845	0.88717633	1.1379418
Beta-alanine synthase	1.4620898	1.0478215	1.2565726	0.9974059	1.3821802	1.2700171	1.2968379	0.74774545	0.73782815	0.802811	0.53174627	1.2141064
Phase-1 RCT-206	0.50588113	0.5518755	0.7134052	0.73019903	1.4932228	0.8378002	1.2012084	1.8005932	1.0124761	0.065144	0.51653355	0.6874827
Carbonic anhydrase III	0.683671	1.3674699	1.0929719	1.3210452	1.4932228	0.8378002	1.2012084	1.8005932	1.0124761	0.065144	0.51653355	0.6874827
Phase-1 RCT-201	0.81785154	0.8258808	0.8433603	0.7735783	1.3218388	1.0446348	1.0946348	1.0538492	1.0663453	0.9659589	0.7203892	0.7327804
Carbonic anhydrase III, sequence 2	0.80932	0.7613602	0.7647238	1.147145	1.2083049	1.2085953	1.0719223	1.681202	1.2164011	1.035719	0.7032643	0.69671807
Phase-1 RCT-271	0.6716755	0.7088648	0.8824195	0.8471153	1.2284541	1.0611837	0.9307024	0.99285736	1.0380732	0.90088624	0.9587255	0.94968644
HMG-CoA synthase, mitochondrial	0.82719177	1.2701389	0.9276761	0.63994377	0.84793713	1.0468481	1.0744107	1.0410855	0.73510045	0.78700876	1.0655042	1.030483
Phase-1 RCT-189	0.92750496	1.03048	1.1528984	0.8836765	1.2841735	1.835428	1.074107	1.0410855	0.73510045	0.78700876	1.0655042	1.030483
Phase-1 RCT-40	0.8633591	0.7657798	0.96591363	1.2148898	1.1878763	1.0740273	1.0740273	0.7631808	0.84010035	0.85560817	1.1606925	1.264846
Urinary protein 2 precursor	0.8707199	0.8182033	0.79349683	0.5887893	1.0725607	1.0740273	1.0740273	0.7631808	0.84010035	0.85560817	1.1606925	1.264846
Paraoxonase 1	0.6301686	0.8003901	0.83943975	0.7384444	1.124285	1.0161643	1.0480409	1.2633115	0.7483804	1.0580588	0.8222048	0.7779973
Liver fatty acid binding protein	1.6821066	0.7404288	0.91567796	0.54986814	0.9574943	1.0121646	0.8671658	0.8088677	0.79885765	0.9541871	0.9699096	0.6954176
Preferitin-1	0.53610164	0.8517816	0.8471035	0.7444242	1.0251546	1.4451759	1.1168102	1.0631302	0.59055734	0.7544897	0.8798485	0.70145805
Phase-1 RCT-370	0.81733088	0.7791298	0.98311526	0.9720045	1.2382972	1.2652023	0.97564137	1.0210308	0.871088	0.9497254	1.034416	0.9710582
Transferrin	0.7589024	0.64593184	0.9461733	0.81018676	1.1915478	1.0654709	0.97564137	1.0210308	0.871088	0.9497254	1.034416	0.9710582
Hepatic lipase	0.64434363	0.63782394	0.7842272	0.7132315	0.8671055	1.0274721	0.7082159	0.9622249	0.44262192	0.7400179	0.8335204	0.9366248
Cytochrome P450 11A1	0.77108726	0.63418995	1.1960361	0.8612259	1.1505477	1.8437005	0.9372185	1.045193	0.874652	0.96874535	0.7558046	0.8067981
Phase-1 RCT-176	0.68870988	0.7836714	0.6689725	0.62841403	1.1845903	1.1149359	0.8591953	0.82034487	0.7703916	0.94510937	0.88170207	1.2030056
Phase-1 RCT-137	1.5117348	1.0601634	1.2466214	1.0893842	1.1531682	1.1122852	1.1368813	0.82034487	0.7703916	0.94510937	0.88170207	1.2030056
Melanoma-associated antigen ME491	0.71725285	0.7591694	0.9280697	0.8965868	1.2128456	0.8848574	0.8591953	0.82034487	0.7703916	0.94510937	0.88170207	1.2030056
Phase-1 RCT-12	1.0888001	1.0102526	1.1262056	1.2460278	0.89595674	0.7721415	0.7759122	0.83560308	0.80813758	0.93471855	1.548022	1.232769
Phase-1 RCT-152	0.8573871	1.1591169	1.0141681	0.8977508	1.0202174	1.2492963	1.1147162	1.0386245	1.1438717	1.0744244	1.3858277	1.018084
14-3-3 zeta	1.170481	1.0005908	0.9748382	0.8697508	1.0202174	1.2492963	1.1147162	1.0386245	1.1438717	1.0744244	1.3858277	1.018084
Cytochrome P450 2C23	1.170079	1.488968	1.102526	1.0137153	1.1270578	1.470114	1.0130084	0.9559349	0.80981135	0.75416876	1.1341782	0.99568546
Voltage-dependent anion channel 2 (Vdac2)	0.8311873	1.322878	1.0420244	0.7825268	1.3000359	0.9255412	0.9222175	0.7811307	0.493957	0.8039957	1.1273969	0.8668249
Phase-1 RCT-154	0.98910786	0.9346746	1.0341893	1.2637698	0.91030717	0.85963446	0.957857	0.9199665	1.0494719	0.8692952	0.9400862	1.2462788
Superoxide dismutase Mn	1.6861537	1.3651761	1.2412094	1.097916	1.2434553	1.2872769	1.2595822	1.010772	1.4288327	1.435363	1.1319547	2.0203386
Phase-1 RCT-196	0.816917	0.9653663	1.046054	1.010804	0.8243019	0.7078105	0.8015888	0.8670703	0.8332053	0.86505	1.1600162	0.7798084
Cyclin G	1.1832772	1.340841	1.041701	1.3977548	0.9148868	0.95818084	1.0044901	1.0929897	1.0835636	1.368802	1.1416441	1.2275662
Calgranulin B5	1.1155237	1.0468974	1.0568084	0.8222751	0.8371898	0.943967	0.943967	0.9681851	1.0509431	1.0316532	1.1637181	1.1908113
Phase-1 RCT-205	0.92434468	0.98178285	0.8909785	1.0433538	0.9243378	0.89362205	0.88546607	0.8172711	0.85908756	0.8233484	1.121048	0.8235816
Phase-1 RCT-48	1.0161443	1.0323689	1.0321838	1.0663776	0.831461	0.9717728	0.997662	1.1153138	1.0944927	1.0418516	1.0919287	1.0548021
Caspase 3	1.4149469	0.9853038	1.2240976	1.321876	1.0189595	0.8684136	1.0882223	1.2083568	1.2054414	1.109966	1.090394	0.9501139
Alpha-tubulin	1.0370028	1.46817	1.0741249	1.0544504	0.93503854	0.93573153	1.0332513	0.9440916	0.91558903	0.80814624	1.3000224	1.0716901
Ribosomal protein L19A	1.5708558	1.45864	1.3681538	1.057386	1.0106195	1.08023	1.0932256	0.96619285	1.033856	0.8813664	1.1743172	1.9268946
IgE binding protein	1.1853719	1.0179893	1.0109497	1.2472469	0.8666333	0.8312525	0.96103068	0.93276924	0.8491512	0.987105	0.86312294	1.051084
Phase-1 RCT-39	0.85631293	0.8880473	1.0303377	0.8334626	1.0615832	0.9992583	0.90183768	0.93276924	0.8491512	0.987105	0.86312294	1.051084
Homeobox	1.527974	1.1091478	0.80032516	1.0428408	0.89550033	0.89550033	0.95281035	0.95281035	0.9186029	1.2303884	1.3017248	1.0029461
Phase-1 RCT-241	1.0972037	1.0168953	0.95531034	1.1948778	0.961812	0.8852473	0.95281035	0.95281035	0.9186029	1.2303884	1.3017248	1.0029461
Ribosomal protein S9	0.9874634	1.028433	1.058497	0.894858	1.0470507	0.9134198	0.9716263	0.80058825	0.8872151	1.0072577	0.99324423	1.0394986
Phase-1 RCT-258	0.9146017	1.0935995	1.010217	1.1854497	1.007895	0.8944189	1.074528	0.96414554	0.985567	0.9303948	1.0407337	1.094986
Argininosuccinate lyase	0.91765875	1.3101095	1.2478269	1.0149401	1.5628184	1.4103422	1.3624986	1.2824941	0.92308274	0.9817164	1.1478995	1.096364
Phase-1 RCT-180	1.0504035	0.90115076	1.0153394	0.86176618	0.92426065	0.92426065	0.92426065	0.92426065	0.92426065	0.92426065	0.92426065	0.92426065
Multidrug resistant protein-1	0.99953303	1.1283089	1.1449374	1.1179422	1.0488818	1.188497	1.217331	1.400448	1.2398317	1.1010787	1.1478995	1.096364
Oxidative decarboxylase	0.9825374	0.9871012	0.93001735	0.8452814	1.122097	1.1903354	1.084533	1.2060008	1.3605129	1.1020507	1.1636727	1.2887087
Thymosin beta-10	1.1944747	1.192876	1.449518	1.026487	0.91365925	0.8823834	0.85405635	0.77703494	0.84567833	0.70050637	1.0515588	1.2702259
Phase-1 RCT-72	0.98652774	0.9291911	0.9371134	1.4278867	0.791698	0.8005693	0.81076975	0.9746716	0.9566778	0.9687635	1.0594483	1.0638043
Phase-1 RCT-109	0.8214001	1.2756557	1.025989	0.8566296	0.8816812	0.941601	1.024931	0.7155178	0.738278	0.8747924	0.7693808	0.83826524
Vacuole membrane protein 1	0.811599	0.957459	1.0103088	0.99667513	1.0798959	0.83590283	0.8432689	1.0715789	0.90198135	0.9710876	1.1731777	1.2797586

Phase-1 RCT-155	0.8490045	0.95355016	0.964759	1.3745525	0.7082735	0.7168288	0.9710129	0.8832117	0.98970657	1.0227301	0.9221607	1.0847225	1.0951895
Phase-1 RCT-113	1.1253973	1.1701739	1.0590038	1.0988119	1.1018058	0.96802976	0.9564636	1.048788	0.9243725	1.0975763	0.9308428	0.9819788	0.95461286
Endogenous retroviral sequence, 5' and 3'	1.1309875	1.309439	1.3024776	1.161104	1.4116328	0.9164059	1.5041084	0.95104325	0.72859156	0.70105016	1.1356703	0.87063457	0.84882076
UTR	1.0789885	0.9731921	0.9482086	0.6332676	1.2093507	0.8166328	0.84038425	0.77047724	0.87273894	0.42612498	1.1004893	1.1361011	0.84379873
Beta-actin	0.9144948	1.0865247	0.9280835	1.0594393	1.0842584	1.2085605	1.0968321	1.1224254	0.9148987	0.935248	1.157088	0.8537874	1.134871
Phase-1 RCT-65	1.3085401	1.1024977	1.0032218	1.1433822	1.2491324	1.3169808	1.1682873	1.148013	1.0068011	1.0495045	1.011402	0.69423174	1.1079848
MHC class I antigen RT1-A1(alpha-chain)	1.1929992	1.220737	1.0056925	1.037324	0.84756697	0.97182783	1.0921773	0.9640634	1.0125102	1.0886308	1.2805521	0.9723598	1.2563033
Bax (alpha)	1.0664368	1.2229317	0.97824705	1.0018888	0.82499256	0.81777806	0.83327385	0.88369715	1.1428894	1.283531	1.0569657	1.0395573	1.1370679
Carbonic dehydratase	1.1785138	1.1351978	1.2204858	0.8663081	1.1442285	0.8165179	0.8095592	0.8431527	0.8064164	0.7467704	1.2808883	1.3861797	0.997809
Beta-actin, sequence 2	1.1785138	1.1351978	1.2204858	0.8663081	1.1442285	0.8165179	0.8095592	0.8431527	0.8064164	0.7467704	1.2808883	1.3861797	0.997809
Interleukin-10	1.1463419	1.2580728	1.0109068	0.92383546	0.7914689	0.95239955	0.9887216	0.9138898	0.8131008	0.816838	1.4319409	0.98071444	1.4285841
Phase-1 RCT-191	0.957703	1.0112606	0.93005776	1.0522851	1.2950085	1.2586238	0.97877777	1.1851378	0.8140837	0.83506627	0.8765764	0.74138955	0.8345218
Phase-1 RCT-111	0.8587403	1.2222899	0.91679716	0.77887057	1.1037633	1.1146505	1.0392216	0.9620979	0.8000054	0.8301878	1.0234784	1.0509181	1.159574
Apoptosis-regulating basic protein	0.8035941	0.9554493	1.0684318	0.8384854	1.1007688	1.1403348	0.9177121	1.3704787	0.78462245	0.74487	0.8081348	0.64847344	0.7816571
Glutathione peroxidase	0.60390037	0.649045	0.950889	0.708751	1.007688	0.7752877	0.8423	0.90802317	0.9022248	0.82508725	0.72833547	0.82980075	1.1390542
Phase-1 RCT-239	0.9774028	1.0893745	1.0288054	1.3403283	0.8349528	0.81455718	0.93670033	0.92821264	0.9769235	0.9700253	0.8965692	0.9343389	1.0288473
Phase-1 RCT-67	0.9490309	0.8786637	1.0147259	0.7537832	1.0889566	1.1369284	1.0295687	1.1382904	1.0830799	1.2867888	0.8265279	0.99918836	0.86370107
Tryptophan hydroxylase	1.055638	0.8786637	1.0147259	0.7537832	1.0889566	1.1369284	1.0295687	1.1382904	1.0830799	1.2867888	0.8265279	0.99918836	0.86370107
Sulfotransferase K2	0.91309947	2.0846335	1.6701734	1.1802634	2.0158272	1.4298481	0.98104244	1.1372457	0.89760995	0.98885717	0.73206335	0.93844184	0.7740833
Calgranulin B9	0.9519456	0.88811475	1.008555	1.00669	0.8489358	0.97644335	0.98104244	1.1087385	1.0162578	0.9553766	0.9876808	1.005818	1.0056612
Phase-1 RCT-123	1.0392454	0.94757116	0.9312291	1.1783302	0.8552869	0.796243	0.93666305	1.0087385	0.9710671	0.9553766	0.8958802	0.9422091	0.9522558
Phase-1 RCT-48	0.78956785	0.9051375	0.8621439	0.96522635	0.8931241	1.0135528	0.833426	1.0623356	0.9710671	0.9553766	0.8958802	0.9422091	0.9522558
Aquaporin-3 (AQP3)	0.9246733	0.98457533	0.944447	1.255107	0.8252759	0.8454816	0.9446066	0.5477765	1.0189801	1.0280429	0.8938026	0.9961146	1.0076276
Steady-State deacetylase, liver	0.28617866	0.07278274	0.8653869	0.75780004	0.7580309	0.72834224	0.38813787	0.85491674	0.0639704	0.47189765	0.73378004	2.0584555	1.1791835
Phase-1 RCT-64	1.0688965	0.7617654	1.0018016	0.8553828	0.7304076	1.1525278	0.9522887	1.1282849	0.98709506	1.3149943	0.86231504	0.98322654	0.92511785
(1) Gene expression data for 24 hour timepoint are presented as mean ratio of treatment/control for all 24 hour predictive genes (Table 5).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound-dose group at 72 h: yes-necr, necrosis observed; yes-both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 5 and as included in Table 26)													

Table 29

Table 28. Expression Data for 24 Hour									
Compound-Dose (2)	CHX 0.5	CHX 0.5	CHX 0.5	CHX 2	CHX 2	CHX 25	CHX 25	CHX 25	CHX 25
Animal Number (3)	2244	2245	2246	2247	2248	2249	2250	2251	2252
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no
Gene Name (5)									
Gamma-actin, cytoplasmic	0.9983807	1.5883876	1.129632	3.6529722	2.8307803	2.7895775	1.7662844	0.9431759	1.1469854
Phase-1 RCT-145	0.94025354	1.0961683	1.2302104	1.951673	1.9621283	1.5306990	0.9323005	0.94078463	1.1830208
Gadd45	1.1025003	0.7628423	0.9921554	0.88552444	1.0677212	0.9225125	0.9310705	0.93020856	1.2269978
Phase-1 RCT-78	1.0157187	0.8887835	0.8257809	0.8986885	0.86778804	0.9331316	0.886846	0.88652263	0.8707807
Fas antigen	1.0293813	1.1938522	1.0163659	1.1963382	1.6553521	1.5439804	1.2888573	1.406916	1.91123027
Macrophage inflammatory protein-2 alpha	0.99190738	1.1185317	1.1487525	1.4402591	2.1188757	2.1920719	1.0363132	0.84302700	1.2813107
Integrin beta1	1.1204696	1.1972289	1.2522796	1.852349	1.9727416	1.594386	1.1614805	1.1736704	0.86752304
Phase-1 RCT-207	0.95286193	1.3841334	1.5906987	2.3335903	3.5395994	2.2061093	0.96891345	1.1275882	1.1160359
Aspartate aminotransferase, mitochondrial	0.9682415	1.1450025	0.8488407	0.9280084	1.028438	0.80883366	0.94609115	0.8320239	0.84878644
Caselin-alpha	1.040449	1.071527	0.9771033	1.0119997	0.8406054	1.0743897	0.9692603	0.9526392	2.7862224
Medic enzyme	0.7895181	0.5007801	0.62083846	0.598745	0.33987373	0.3565693	0.91145134	1.0164182	1.4991018
Phase-1 RCT-30	1.0016528	1.0121242	1.0651769	0.968095	1.0006985	1.695917	1.007263	0.98815865	1.2865455
Hepatocyte growth factor receptor	1.0728713	0.9812083	1.0684726	1.037817	0.9685378	1.074507	1.095177	1.0327822	1.1783783
MAP kinase kinase	1.2750109	1.0318558	1.1220206	1.2011533	1.369296	1.2024289	1.053685	1.0350316	0.85924
Sodium/glucose cotransporter 1	0.8001111	0.8884781	0.84260267	1.0100984	0.84541297	0.9245259	0.77841353	0.8154952	0.7830467
Phase-1 RCT-27	1.0835929	1.7042657	0.39721087	0.43151835	1.1414785	1.222174	0.7717708	1.8849591	1.1496545
Phase-1 RCT-50	0.9058889	0.8851095	0.822847	1.407187	1.394043	1.8673415	1.034398	1.1883325	1.0005766
Phase-1 RCT-192	0.7374161	0.9454689	0.81009775	1.3936177	1.6849638	0.9838191	1.0309895	1.0116572	0.8805418
Phase-1 RCT-288	0.92282768	0.87509526	0.85840684	0.9487939	0.7065926	0.68130624	0.96898234	1.0845484	0.8318688
Phase-1 RCT-37	1.0627104	1.3925552	1.3491938	1.899519	1.4997816	1.6384624	0.98023385	1.4420907	1.1384017
Organic cation transporter 3	1.044702	1.624847	1.7865703	3.3090835	3.2877293	2.7873716	0.839444	0.9030965	0.9913304
60S ribosomal protein L8	1.0071745	1.9509026	2.0686812	4.097095	4.045918	3.1642585	0.90143998	0.8836301	1.0282867
Zinc finger protein	0.932975	0.8470814	0.92518694	1.0161242	2.5314925	1.0313812	0.90980868	1.0342678	1.0761298
Calgranulin B2	1.0268733	0.9055487	1.0748240	1.4548825	1.3978752	1.2182437	0.88189465	0.841541	1.073997
ID-1	1.0268733	1.0033055	1.1466665	1.131737	1.8312454	1.4756345	1.420907	1.1872568	1.5162732
Phase-1 RCT-92	0.997038	0.915868	0.7397589	0.7992213	0.54833555	0.673591	0.78028053	0.7807231	0.7512972
Phase-1 RCT-115	1.1062469	1.0679224	1.2826349	1.0292848	1.0254974	0.644227	1.1028825	1.2646534	1.1579427
Matrin F/G	1.4549469	1.4021835	0.9684843	1.1520654	0.86942186	0.86942186	0.9695774	0.9718189	1.3490194
Mull. homologue (MLH1)	0.87372528	1.0039874	1.071154	0.8436884	1.1613541	1.2424035	1.0710865	0.9695774	1.2010185
Phase-1 RCT-185	1.0300762	1.0399585	1.071723	1.7030349	1.3887781	1.5266595	0.9745472	0.71967865	1.188285
Sorbitol dehydrogenase	1.0932683	1.6482308	1.2330303	2.5985505	1.9762966	1.947834	1.255511	1.413174	1.0693053
Phase-1 RCT-24	0.9724068	0.99246275	1.0313333	0.8693174	0.78161025	1.0843039	1.219774	1.0602884	0.94285756
Calgranulin B1	1.0072578	1.4864143	1.1938028	2.5975108	2.1987078	2.6670843	1.1425304	1.2378229	1.0122884
Elongation factor-1 alpha	0.99537706	1.2205302	1.0513021	2.113279	2.1220472	1.6371162	0.9851635	1.0433665	0.8510042
L-glutono-gamma-lycine oxidase	0.62253827	0.57385	0.29324922	0.4313738	0.18149716	0.3251389	0.9031416	1.1519454	0.7240199
Phase-1 RCT-33	0.91145265	0.8435144	0.90227187	1.4121661	1.1201547	1.1286113	1.0311242	1.03702	0.98940768
C-Jun	0.86753	0.98886166	1.022845	0.74007106	1.5913497	1.1056004	1.1344666	1.0432018	1.5495086
Phase-1 RCT-233	0.9003313	1.2917166	0.7558288	0.86497647	0.8577805	0.8287186	0.9066492	1.0972352	1.0874839
Phase-1 RCT-36	0.87548843	0.7918165	0.80058324	0.8895824	0.8522038	0.9535317	1.0611111	0.98770636	1.078631
Phase-1 RCT-242	0.86177087	0.9050085	1.0895988	0.8148787	1.1940988	1.0014788	1.034844	1.0132788	1.6644111
Phase-1 RCT-181	1.1002562	1.438414	1.3354911	1.590165	1.0510261	0.92777487	1.0243683	0.9455357	0.8942844
Phase-1 RCT-185	0.8971198	0.7111178	0.51290714	0.5318833	0.38221017	0.39807385	0.79734076	0.8463888	0.7658559
Phase-1 RCT-179	0.83358105	1.1462737	0.9050791	2.0659189	1.8741211	1.7557137	0.94725543	0.9912074	0.7784477
Phase-1 RCT-144	0.9016562	1.1117104	1.1677814	1.6782383	1.681608	1.5520238	0.8666223	0.9453385	1.2098634
Id-2	1.1091301	1.1397011	0.89082228	1.3391433	1.2742653	0.8667153	0.9455653	0.9798691	0.8466881
Phase-1 RCT-225	0.8199421	0.82505757	0.84951913	0.812194	0.2322758	0.5183017	0.8514112	0.76588024	1.3456382
60S ribosomal protein L8 (alternate clone 1)	0.9983806	1.7308453	1.8038887	3.9719085	3.1713828	0.9325775	1.0228788	0.8493095	1.2114661
Beta-tubulin, class I	1.024464	1.5757039	1.614378	2.2846734	1.4241888	1.2904816	1.1570295	1.0440573	0.8936813
Multidrug resistant protein-2	1.3219397	1.0918524	1.3476552	3.5141747	3.4177349	3.1648946	1.0715781	1.0003902	0.82022145

Table 29

Phase-1 RCT-49	0.97586066	1.0243053	1.0191988	1.2770728	2.2781852	1.1162382	0.93492883	0.8993538	1.2135141	0.9428373	0.8715899	0.94605273	0.8171284
Calgranulin B3	1.0683076	1.4074914	1.6017857	1.2571162	2.2078952	1.5577714	0.91940165	0.93186397	1.1387705	1.3266456	1.0444389	1.2641286	0.93597145
NADP-dependent isocitrate dehydrogenase, cytosolic	0.9044795	1.0228876	0.8405032	0.883924	0.4225385	0.6028707	1.0392553	0.9616564	0.7067854	0.7843551	1.3450128	0.98146254	1.1572465
Oxalacetate binding protein 1	0.99749726	1.1031793	1.2301778	0.7014423	0.7317208	0.8727345	1.0080123	1.0837522	0.812148	1.083249	1.2762716	1.1428399	1.1643881
Sodium/bile acid cotransporter	1.0990115	1.0278434	0.87733318	0.8159592	0.28031644	0.3732801	1.0587011	1.0116426	0.7821948	0.4844858	0.9028015	0.8098959	1.1025871
Phase-1 RCT-174	1.0254452	1.0180146	0.9001345	0.9612838	0.9004898	0.7821274	0.8752065	0.9305638	1.2941722	1.0046908	0.9868937	0.9715663	0.81430197
Phase-1 RCT-77	1.0992223	1.214521	0.8815238	0.9841872	0.77061266	0.8016126	0.85433378	0.9015191	0.482327	1.0138954	1.036739	1.036739	1.3881203
Inositol polyphosphate multikinase (ipmk4)	0.77289835	0.5210473	0.5160065	0.4800848	0.325804	0.28798616	1.0200475	1.0137259	0.8744889	1.1474297	1.3132327	0.7446848	1.0383659
Phase-1 RCT-256	1.0104756	1.057425	0.77223843	1.3932337	0.147829	1.31074	1.0140744	1.0556498	0.69727373	0.9440794	1.1170622	0.7831778	1.0291848
Equilibrative nitrobenzylthioinosine-sensitive nucleoside transporter	2.2489514	0.8645093	1.0091189	0.7823181	0.43400705	0.49743629	0.83808904	0.81683035	0.7429929	0.45221612	0.8570891	0.6998117	0.8180151
CDK102	0.8942373	1.0401324	0.9597939	1.3695515	0.8611594	0.94086634	1.0599042	1.0802824	0.7056499	0.9487424	1.0846802	0.8721783	1.0786888
Phase-1 RCT-209	1.1644664	0.9332382	0.8740788	1.1065815	1.0140788	0.891228	0.9450487	1.2827431	0.9471892	1.0071105	0.8384218	0.815534	1.0252872
NADH-cytochrome b5 reductase	1.0483775	0.6310298	0.5010298	0.6175164	0.5018323	0.5018323	0.9484194	0.7508338	0.7904775	1.108455	0.7304134	1.0252872	1.0252872
Dynamin-1 (D100)	0.8478524	0.9891286	0.840886	0.95323443	0.7864142	0.8968291	0.9778185	1.0534382	0.8876345	0.998888	0.9408917	0.86522245	0.86522245
Sensory marker protein-30	0.88813155	0.69001544	0.7424637	0.60150194	0.065319005	0.454831	1.1123818	1.0450069	0.6272075	0.27853038	1.4121476	0.7754318	1.5519705
Phase-1 RCT-49	1.0655972	0.9712536	0.84216344	0.7941308	0.39124602	0.6860112	0.9264487	1.0001611	0.8210636	0.8326018	1.0771154	0.8911229	1.1618327
Carbamoyl-phosphate synthase	0.9217089	0.82044613	1.0448833	0.8339909	1.0114609	0.980417	0.8336248	1.5121372	0.9941208	0.7148143	0.8206434	1.1484397	1.1484397
Alpha-2-microglobulin	0.5336348	0.5010401	0.25856208	0.4067238	0.13223965	0.14890124	0.769749	1.627089	0.95461355	0.8491208	0.7148143	0.8206434	1.1484397
Apolipoprotein CII	0.82957804	0.68925846	0.5808861	0.5461198	0.5461198	0.502718	0.89102596	0.9310797	0.85292588	0.9173271	0.9605531	1.1702825	1.1702825
Calreticulin 1, sequence 2	1.0308439	1.2493106	1.0158839	2.0617847	3.2933927	1.7515035	0.9887323	1.0485934	1.0965822	3.0554178	1.4004469	2.215348	1.5886518
Phase-1 RCT-141	1.9195012	2.5088638	5.1658416	0.694088	19.10274	7.48428	0.9887323	0.9855242	0.8034694	1.125427	1.0785689	0.9831525	0.9831525
Phase-1 RCT-289	0.7700189	0.9405522	0.6847272	0.8323056	0.5931372	0.6769383	0.9055611	0.948087	1.2165223	0.7833085	0.8969077	0.9634056	0.9634056
Endothelin-1	0.91889124	0.91315186	1.0255628	0.8722658	0.9705601	1.0599084	0.9504273	0.948087	1.2165223	0.7833085	0.8969077	0.9634056	0.9634056
Phase-1 RCT-282	1.1661923	1.0423925	1.1720282	1.450301	1.3523529	1.3599084	0.9307428	0.9007873	1.2104523	0.8269468	0.94847864	0.9245289	0.78813003
Phase-1 RCT-140	0.8703084	1.0308349	1.0682893	0.8768954	1.0156898	0.9683468	0.9697043	1.1197182	0.9803916	0.8768954	0.9697043	0.9697043	0.9697043
Cyclin D1	0.868487	1.0149541	1.2897898	2.4033994	1.4830773	2.0574925	1.612985	1.0538121	1.6117715	1.2906757	1.2906757	1.2906757	1.2906757
Phase-1 RCT-287	1.024268	0.9823822	1.0249083	0.746468	0.8304824	0.9516477	1.0317039	0.825668	0.78909235	1.4048757	1.2906757	1.2906757	1.2906757
Phase-1 RCT-281	0.94382507	0.7626531	0.8046931	0.7362365	0.7488716	1.3288857	1.2494084	0.9817258	1.2404064	0.8389307	1.0528048	1.1710266	1.1710266
Retinol-binding protein (RBP)	0.8559298	0.6905546	0.82125635	0.50029785	0.7681225	0.3879888	0.9861671	0.9111436	0.7591311	1.2180455	1.1047841	1.4685865	1.4685865
ATP-activated glucocorticoid-receptor	1.0852485	1.2106671	1.0320622	1.8969401	1.2287866	1.4115916	1.0526855	0.98181375	1.2454492	1.0093244	1.0301731	1.2411356	1.2411356
translocation promoter (Gyk)	1.0358446	0.9387335	0.97395414	1.1307015	1.4303195	1.0101089	0.9484746	1.388208	1.1431404	0.8926184	0.9120257	1.080388	0.822063
Phase-1 RCT-50	1.2178328	1.2472234	1.2232014	1.8739325	2.1357622	1.8510845	0.9407471	1.0512956	1.0550194	0.9875792	0.6904374	0.9320884	0.7197864
Pyruvate kinase, muscle	0.9880509	1.2141242	1.368238	1.910846	2.4942105	1.7751994	0.9853478	0.8816999	1.0584335	0.90743476	0.85005803	0.9499066	0.90624765
PAR interacting protein	1.0880276	1.4795583	1.2451006	2.1025286	1.9030911	1.7552234	1.1120044	1.0174289	0.9342405	1.8182374	1.2571884	1.2793146	1.6095233
Nucleoside diphosphate kinase beta isoform	1.0203187	0.6867953	0.92502755	0.37815678	0.106923786	0.23977186	0.7895198	0.77607895	0.59701803	0.2502537	0.8187832	0.53322613	0.9321487
Gadd153	1.0598527	1.2218478	1.2547028	1.7184129	2.3482122	2.1793523	1.107138	1.0884286	1.2105945	1.2304084	1.0477052	1.0813161	0.8984648
Insulin-like growth factor binding protein 1	1.3025428	1.0495488	1.0004839	1.1440232	1.8908749	1.0198372	1.1873372	1.393731	0.9290115	2.7482727	0.86177137	1.1548257	1.2828089
Ch-Hrs	1.0713821	1.3540828	1.4434841	2.0440903	1.8799273	1.8705285	1.1782088	1.1782088	1.0584335	1.384305	1.0144197	1.0889424	1.2574104
N-hydroxy-2-acetylaminofluorene sulfoxyltransferase (S11C1)	1.0203187	0.6867953	0.92502755	0.37815678	0.106923786	0.23977186	0.7895198	0.77607895	0.59701803	0.2502537	0.8187832	0.53322613	0.9321487
Phase-1 RCT-52	1.2817193	0.4892697	0.3433435	0.27558807	0.18516288	0.2314039	1.0240551	0.7878292	0.7878292	0.33411103	0.87833485	0.66518056	0.95194255
Alpha 1 - inhibitor III	0.67880186	0.8037288	0.4356084	0.49777355	0.19848953	0.3033257	0.8217645	1.0460413	0.8627238	0.48618534	0.7626283	0.58501047	1.1188627
Stand carrier protein 2	0.9134018	0.92259127	0.89382758	0.7353627	0.7353627	0.7407719	1.0889094	1.0889094	0.8001815	1.2668116	1.499086	1.1911296	1.261307
Organic anion transporter 3	1.0516382	0.99284893	1.1492584	0.777747	0.61963844	0.8225944	1.0889094	1.0889094	1.2403215	0.844389	1.1526127	0.9686416	0.9397717
Calgranulin B4	0.9597128	0.6709476	0.82784003	0.7056428	0.2815282	0.49236035	1.0580979	1.0580979	0.7478404	0.79647505	1.4353431	0.98823535	1.1746662
Phase-1 RCT-182	1.0740895	0.27392205	0.77769404	0.9352852	0.64795566	0.47385693	0.8137107	0.7288113	0.6249178	0.74871534	1.1040483	0.9998412	1.2700888
Calgranulin B8	1.1637708	0.767813	0.71619808	0.8048942	0.5650912	0.5122007	0.87169784	0.8611794	0.7505206	0.7601414	1.2750386	0.8470943	0.988047
Aldehyde dehydrogenase, microsomal	1.0096554	1.2703005	1.0433328	1.2191534	0.96588854	0.8884684	1.0687747	1.1320454	0.8742379	0.84739935	0.9386944	0.91283184	1.1803493
Phase-1 RCT-128	0.8680524	1.4904848	0.72572537	0.9307375	0.7357783	0.96007814	0.9586838	1.2518427	0.723216	1.1631421	1.0494541	0.8783303	1.3984152
Phase-1 RCT-102	0.92638856	0.5081898	0.46258114	0.5405593	0.16284688	0.32188815	0.858752	0.8378038	0.9361544	0.6372141	0.4843838	0.7204864	0.7204864
Preprolactin, sequence 2	0.74709076	0.68460494	0.41534498	0.3577593	0.28516087	0.35007575	0.859227	0.88590314	0.6194203	0.80403775	1.2462364	0.8078017	1.2103612
Preprolactin, sequence 1	0.4452894	0.3915846	0.2667238	0.21188591	0.1747583	0.14839435	0.957967	1.8102839	1.0688778	0.8411239	0.8652266	0.7204038	1.4489447
Phase-1 RCT-40	0.9470495	0.9398608	0.9586804	1.0287387	0.70786433	0.7475581	0.93907675	1.0398864	0.8494271	1.0095959	1.0869701	1.1086894	1.4242887
Phase-1 RCT-10	1.1675109	1.0938517	1.0088116	1.3505983	0.8259085	0.9012404	0.9687007	1.1085708	0.82320255	0.7872354	1.011728	0.90227885	0.983695
Phase-1 RCT-8	0.7659848	0.7265608	0.4381422	0.6447457	0.29880142	0.34550103	0.85567595	0.84953463	0.6228061	0.7817489	1.2292513	0.7770482	1.124942

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Phase-1 RCT-188	0.77033684	0.6781263	0.76136054	0.5750061	0.25856505	0.40038304	1.0866771	0.9271205	0.8776507	0.4358063	1.1428328	1.0468772	1.0541917
Phase-1 RCT-189	1.1785127	1.0050626	0.954526	0.77122337	0.96224936	0.89628868	0.75448465	0.7721982	0.8975256	0.8204477	0.85601144	0.941321	1.0048641
Beta-alanine synthase	1.1795187	1.394049	0.9007685	0.97084894	0.4602472	0.107809474	1.080403	1.2361141	0.7138654	0.8384748	1.1282348	0.7206334	1.3628914
Phase-1 RCT-296	0.80776598	0.31730943	0.15766844	0.138092568	0.13248757	0.102809474	1.01345	0.7855647	0.86285196	0.19691289	0.9048253	0.6015903	0.763848
Carbonic anhydrase III	0.5902854	0.6998071	0.11866559	0.31541392	0.098172428	0.10709699	0.9088653	1.0083947	0.86205196	0.48194855	0.9202982	0.62312734	0.8345837
Phase-1 RCT-281	1.0384343	0.97272164	0.2524493	0.95858014	0.91174126	0.832658	0.6274638	0.9699749	0.80765086	0.92786264	1.0587115	0.845613	1.0258198
Carbonic anhydrase III, sequence 2	1.145894	1.116673	0.6347482	0.8943858	0.35310648	0.73505555	0.8521187	0.9533963	0.7471703	0.6418573	0.7471703	0.6038642	0.8282959
Phase-1 RCT-271	0.9253091	0.9352302	0.5926202	0.9181555	0.8628688	0.73505555	0.8521187	0.9533963	0.7471703	0.6418573	0.7471703	0.6038642	0.8282959
HM-CoA synthase, mitochondrial	0.7748461	0.8627818	0.6419196	0.7169887	0.7560233	0.7412518	0.8615325	0.94760734	0.78273287	0.89252574	0.99701771	0.9168716	1.2756188
Phase-1 RCT-189	1.0133785	0.80165684	0.8419196	0.79438905	0.58677853	0.7560233	0.8615325	0.94760734	0.78273287	0.89252574	0.99701771	0.9168716	1.2756188
Phase-1 RCT-40	1.0288253	1.0145277	0.958137	1	0.58677853	0.7560233	0.8615325	0.94760734	0.78273287	0.89252574	0.99701771	0.9168716	1.2756188
Urinary protein 2 precursor	0.7636657	1.2291912	0.7938764	1.5151533	1.1272709	0.77122337	0.80011106	0.7703277	0.73201986	0.7703277	0.73201986	0.7703277	1.1174282
Paraoxonase 1	0.84782684	0.731044	0.6989097	0.638049	0.46089768	0.35434705	0.8248038	0.9044944	0.7643724	0.3482527	0.9220613	0.70329725	1.2568397
Liver fatty acid binding protein	0.30632148	0.60769534	0.6983544	0.638049	0.46089768	0.35434705	0.8248038	0.9044944	0.7643724	0.3482527	0.9220613	0.70329725	1.2568397
Preferlin-1	0.7023558	0.79924726	0.4349051	0.4884687	0.18402989	0.30104074	0.8248038	0.9044944	0.7643724	0.3482527	0.9220613	0.70329725	1.2568397
Phase-1 RCT-38	1.0260766	1.1277264	0.81469006	1.4826338	0.80742794	0.3778883	0.96339733	0.81689348	0.681077	0.7276826	1.2349594	0.9316338	1.1744232
Phase-1 RCT-270	0.8935978	0.8142408	0.64830214	0.48545014	0.39240713	0.3778883	0.96339733	0.81689348	0.681077	0.7276826	1.2349594	0.9316338	1.1744232
Transferrin	0.7153317	0.5126207	0.5119926	0.4829779	0.3340674	0.2878558	0.91780535	0.93841434	0.83580538	0.66696984	1.0750316	0.6659538	0.84165734
Hepatic lipase	0.82756304	0.74184008	0.53936267	0.5445957	0.42503393	0.2878558	0.91780535	0.93841434	0.83580538	0.66696984	1.0750316	0.6659538	0.84165734
Cytochrome P450 11A1	1.0803014	1.642568	1.1394004	0.8743615	1.1155804	0.6251114	1.0238718	1.020287	0.84539814	1.134761	1.3974879	0.8641873	1.365613
Phase-1 RCT-175	1.2506816	1.092636	0.8047536	1.2141955	1.1104892	0.8390483	0.8589417	1.053265	0.84208268	1.134761	1.3974879	0.8641873	1.365613
Phase-1 RCT-117	1.152223	1.1572988	0.90341383	1.3951693	0.5435337	0.813733	1.0592916	1.153077	0.8970532	0.738454	1.0590727	0.8625236	0.91270817
Phase-1 RCT-437	0.78882223	1.2668757	0.8316168	1.3951693	0.5435337	0.813733	1.0592916	1.153077	0.8970532	0.738454	1.0590727	0.8625236	0.91270817
Melanoma-associated antigen ME491	2.1181884	1.708025	1.0778925	2.480578	1.9088544	0.89703107	0.7713414	0.9292721	0.75131315	0.759088	1.1532505	0.9417717	1.1653768
Phase-1 RCT-12	0.8283912	0.8847956	0.9056255	0.88317597	0.9742653	0.7860527	1.1598688	1.0943879	0.9641975	1.168371	0.9177635	1.0891631	0.87268755
Phase-1 RCT-152	1.0186201	1.3981824	1.461849	2.4885514	0.3684192	0.21494024	0.92617474	0.8683109	1.087118	1.1647240	0.85516594	1.0164545	1.0511379
14-3-3 zeta	0.93044713	1.0258876	0.7577298	1.1433519	1.307878	0.21494024	0.92617474	0.8683109	1.087118	1.1647240	0.85516594	1.0164545	1.0511379
Cytochrome P450 2C23	0.87745	0.31689978	0.10101736	0.31811484	0.2227116	0.14021212	0.69470688	0.76110315	0.4772709	0.63413878	0.9930585	0.6994852	1.4324951
Voltage-dependent anion channel 2 (Vdac2)	1.0692712	1.2622952	1.2063946	2.2961108	1.8084178	1.772308	1.1690881	1.200373	0.72649036	1.4765191	1.0772881	1.0489185	1.077714
Phase-1 RCT-154	1.0033412	2.268147	2.383056	4.8043005	4.404344	4.1387697	0.87005326	0.9576501	1.115014	1.1224256	1.0526112	1.0315923	0.8128731
Superoxide dismutase Mn	1.2421241	1.428933	1.1787332	2.8132963	3.631148	2.358562	1.16440036	1.1526092	0.83817813	1.1752842	0.8713565	1.0026956	1.7931311
cAMP	1.2134513	0.5801836	1.0636662	0.8349579	1.6828226	1.433551	0.85300536	0.9119935	1.63577813	0.865512	0.9532587	0.9444976	1.0541184
Phase-1 RCT-198	0.8931768	0.90005965	0.8405257	1.6056569	1.7283981	1.3162212	0.8402878	0.9100253	1.0830367	0.8824916	0.9433623	1.063254	0.90562934
Cydrin G	0.96724877	1.5124708	1.2798419	3.440135	8.82878	4.770808	1.2853889	1.2254753	1.915552	1.203182	1.684351	1.426753	0.927368
Calgranulin B5	0.1936681	1.0504888	1.0634937	1.3175641	1.2398617	1.296279	1.0132167	1.0595907	1.337798	0.7950174	1.018499	1	0.8370604
p53	0.80022634	1.1633922	1.0944346	1.3175641	1.2398617	1.296279	1.0132167	1.0595907	1.337798	0.7950174	1.018499	1	0.8370604
Phase-1 RCT-205	0.8056635	0.8776244	0.86643406	0.93566054	1.4146328	0.8011008	0.93763334	0.90874959	0.86416485	0.9555383	0.8961571	0.9518123	1.0583756
Phase-1 RCT-180	0.87528446	1.0317582	1.0428107	2.016842	1.3633982	1.1215438	1.0802022	1.062244	1.2458818	1.5920098	1.0761513	1.0808742	0.8869593
Caspase 3	1.1775268	1.062382	1.106133	1.0810847	1.077762	1.0425097	1.228417	1.1203736	1.132345	1.063564	1.0765318	0.9056045	0.8615721
Alpha-tubulin	0.89874655	1.2440376	1.1688172	1.309845	1.2046003	1.2001715	1.132717	1.0914769	0.888389	1.0894051	1.1533308	1.1150693	1.0108411
Ribosomal protein L13A	1.2428577	2.203905	2.1535406	3.2626003	3.222883	2.5970288	1.4578102	1.6483915	0.8601038	1.6183573	0.8677086	0.90378884	2.1051333
IgE binding protein	1.0970959	1.2578374	0.9718072	1.781124	2.930634	1.5511474	1.0512024	0.93985355	1.3695757	0.963387	0.8916483	0.9285562	0.7618336
Phase-1 RCT-39	1.1249367	0.84596897	1.180913	1.2011848	1.309749	1.4161114	1.0445861	1.0933231	0.83876188	1.077482	0.85117537	0.9585915	1.0550889
Cofilin	1.0442724	1.4381027	1.2833525	1.6438514	1.457137	1.312658	0.94782364	0.8807262	0.8976991	1.077763	1.1043705	1.1772711	1.0550889
Heme coenzyme	1.054812	0.8424946	1.0639714	1.0806013	2.502657	1.108816	0.9534873	0.8807262	0.8976991	1.077763	1.1043705	1.1772711	1.0550889
Phase-1 RCT-241	1.735768	1.309861	1.2118921	1.443484	2.8054178	1.620664	0.88928295	0.8516127	1.2376597	0.9822838	1.0866003	1.0945207	0.954865
Ribosomal protein S9	0.944808	2.0697034	1.9918705	2.8471243	1.9152645	2.036494	1.0059147	0.95524528	0.7100438	1.3048372	1.1824353	1.1062883	1.6887826
Phase-1 RCT-258	0.8739963	1.0581328	1.0956938	1.3866968	1.3913068	1.2050332	0.9523556	0.9593632	1.2939537	1.043358	1.006169	1.1131915	0.8311171
Apelinoprecursor Iyase	1.0318185	1.1400254	1.2545941	3.0686962	5.4212584	2.782387	1.9350992	1.277718	0.9853934	3.3298848	1.3018496	1.3661621	1.2406994
Phase-1 RCT-160	0.8003787	1.286495	0.945158	2.0178589	1.9222869	1.707063	1.076104	1.0316623	0.9008316	0.9629032	1.342655	1.1833985	1.0168844
Mitochondrial protein-1	1.1624874	1.6557432	1.8675676	5.0458617	7.384141	7.3518043	1.1213814	1.0503424	0.9600291	0.9658103	0.977274	0.96893815	1.2337555
Oxidative decarboxylase	0.9580167	0.7149722	1.210683	1.7895785	1.8088492	2.628514	1.176092	1.1380397	1.2397683	1.6271854	1.2315495	1.2827084	0.94158004
Thyrosin beta-10	1.2473649	1.6988685	1.5861318	2.4944253	2.0289829	2.0181258	1.3100805	1.4989884	0.8540392	1.3471377	0.8864974	0.9514072	1.4453231
Phase-1 RCT-72	1.0498133	1.0339454	1.1775979	1.6657311	0.9206723	0.9206723	0.9206723	0.9206723	0.9206723	0.9206723	0.9206723	0.9206723	0.9206723
Phase-1 RCT-109	0.8540916	1.8160272	1.8740226	0.7387065	0.84400976	0.85269257	1.3006695	1.4978039	0.905875	1.4498824	0.87060946	0.9817487	1.4738047
Phase-1 RCT-76	0.8456143	0.8285978	0.8748715	0.93467605	0.8795313	0.8795313	1.1676573	1.1716533	1.3541605	0.8603985	1.0918459	1.1952624	1.1952624
Vacuole membrane protein 1	0.92396665	1.315827	0.9203619	1.3988557	2.0109884	1.2461137	0.7916371	0.8444643	0.92015638	1.3448346	0.928985	1.1769968	1.0881621

Table 28

Phase-1 RCT-158	0.7959672	0.9476078	1.0036565	0.7720175	0.9071053	0.6779145	0.9775889	0.8634755	1.4385028	0.8119408	1.0584984	0.9881818	0.788354
Phase-1 RCT-113	0.97934954	1.1812654	1.2387434	1.2205524	1.8176333	1.1028838	1.223845	1.1410019	1.2881078	1.4677118	0.8788527	1.1394359	0.95120066
Endogenous retroviral sequence, 5' and 3'	0.0027519	0.87735987	0.99969894	1.0143306	0.90660965	0.7128742	1.213356	1.2235526	0.8279691	2.3012395	0.8011342	0.7676363	0.94191647
LTR													
Beta-actin	0.8697028	1.425739	0.94162154	1.750575	1.265545	1.5824912	2.3040056	2.0273225	1.07393	2.7878108	1.2672379	1.4041195	1.2431613
Phase-1 RCT-65	1.043522	1.0660897	1.1386333	1.3903891	1.0703056	1.2085007	1.1739428	1.1802633	1.3234937	1.6624588	1.1397766	1.0949265	0.72533023
MHC class I antigen RT1A.1(0) alpha-chain	0.85949954	1.5004892	1.8067521	1.6289176	1.8789735	1.5991728	1.2816154	1.4500978	1.1003578	1.3148192	1.0803581	1.0627859	0.7898967
Box (alpha)	1.0878818	1.332116	1.4372963	2.6248136	3.9086614	3.0786182	1.2385264	1.2389986	1.3580362	1.2693458	0.9338478	1.0653334	1.1471728
Cardiomy redutase	1.032963	0.944806	2.4786586	0.9190734	1.101152	1.1157993	0.94476664	0.88365693	1.4686044	0.99531305	0.946886	1.002473	0.9055115
Beta-actin sequence 2	1.0388975	1.516129	1.1618828	2.5216012	1.478597	1.7948809	1.2532537	1.0877943	0.97028006	0.92983763	0.9517849	1.1341707	1.1687694
Interleukin-10	0.8796477	0.8954011	1.1390786	0.94450516	0.9667894	1.2258692	1.0543572	0.99781663	1.2399129	1.0598876	0.9074315	1.0555445	1.3393159
Phase-1 RCT-191	0.8129049	0.9922228	0.9284482	1.336852	1.4846584	1.3258895	0.97059685	1.0260553	1.3154	1.0503707	1.0233644	1.0512861	0.8547018
Apoptosis-regulating basic protein	0.84275985	0.97371393	0.78760904	1.1292341	1.0821108	1.0186894	1.3445319	1.343094	1.2443621	1.4287581	0.9475697	1.1287097	1.2983321
Phase-1 RCT-111	0.85304534	1.2013282	0.76888313	1.2381985	0.9529141	0.78365337	0.92534095	1.0049518	0.8887545	0.98230884	0.97182816	0.9703873	0.9615398
Glutathione peroxidase	1.0181545	0.82791847	0.7704902	1.0172722	0.4850058	0.5103364	1.0482865	0.88858985	0.65626696	0.42864376	1.2343097	0.54806533	1.1009835
Phase-1 RCT-239	0.8708341	0.9535451	1.0613596	1.259876	1.1736157	1.6084131	1.1190128	1.1102828	1.3790381	0.8380306	0.87685313	0.9240445	0.7193546
Phase-1 RCT-47	0.94170463	0.8185927	0.87662584	0.8473813	0.7991968	0.776532	0.8144961	0.9762032	1.3979861	0.75212514	0.8959288	0.8999407	0.7825044
Tryptophan hydroxylase	0.9486884	0.94634265	1.027837	0.9484835	0.9156227	0.8265416	1.1088933	1.1084284	0.8539988	1.1643839	1.3318605	1.1031317	1.1438615
Sulfotransferase K2	0.77890056	0.67853083	0.54878365	0.51689126	0.6135232	0.8169603	1.0654056	1.1530607	0.78615573	1.1639488	1.1086125	0.93826765	1.0137866
Calgranulin B9	1.1328754	1.1255927	0.87797755	0.8397562	0.75175835	0.6307621	0.8701226	0.84653497	0.90812653	0.73103	1.0783505	0.88315787	0.74987143
Phase-1 RCT-123	0.8500373	0.9453556	0.8279407	1.0456805	0.87194	0.9451917	0.89357257	0.8468516	1.1620521	0.92441034	0.95812714	0.9684988	0.84921455
Phase-1 RCT-98	0.845746	0.9847755	0.8989084	0.9381064	0.8153956	0.8441597	0.9837325	0.924431	1.1709325	0.9530789	1.0046631	0.9403588	0.8584565
Aquaporin-3 (AQP3)	0.88066345	0.8960177	0.89331007	0.8123487	0.747896	0.8408249	0.8468608	0.8982802	1.149028	0.91994818	0.88127615	0.960515	0.7857755
Stearyl-CoA desaturase, liver	0.7770879	0.12003585	0.16934863	0.06016436	0.09470315	0.04473025	0.4584087	1.4982861	0.34555786	0.05559252	0.08423947	0.2571235	0.18653493
Phase-1 RCT-64	0.9198175	0.6501602	0.4911111	0.4075763	0.3080581	0.37189994	1.1396965	1.016815	1.0039473	0.86218376	0.8711778	0.8898717	0.85274728
(1) Gene expression data for 24 hour													
timepoint are presented as mean ratio of													
treatment/control for all 24 hour predictive													
genes (Table 5).													
(2) Compound and dose abbreviations as in													
Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for													
compound-dose group at 72 h: yes=ncr,													
necrosis observed; yes=both, necrosis with													
inflammation observed; no, no histopathology													
observed													
(5) Predictive gene (as in Table 5 and as													
included in Table 28)													

Table 28

Table 29. Expression Data for 24 Hour													
Timepoint (1)													
Compound-Dose (2)	Animal Number (3)	Liver Toxicity Inflammation Classification (4)											

Phase-1 RCT-49	0.9188607	0.9226657	0.8637526	0.9055995	0.9908863	0.8584717	1.0142572	0.9212242	0.8944716	0.8914739	0.8458085	0.90053374	0.97881565
Calgranulin B3	1.0045576	1.1963958	1.2202424	1.2503719	1.2359508	1.4176707	1.1132253	1.320431	1.9172125	1.5040355	1.5040355	0.97454774	0.97454774
NADP-dependent isocitrate dehydrogenase, cytosolic	1.1761235	1.2011368	0.8708404	1.200138	1.1639205	0.9606567	0.8602653	0.78248703	0.6664904	0.8765368	0.76803476	1.0874642	1.0622336
Oxysterol binding protein 1	0.9610705	1.1003991	1.1996394	1.017041	1.1206186	2.0425403	0.8969486	2.1380859	2.0356018	2.483935	1.7481702	0.8957088	0.8854389
Sodium/bile acid cotransporter	1.1035293	0.8227954	0.4676893	0.5407399	0.82953024	0.43147758	0.86490008	0.5501835	0.5905981	0.3612221	0.4591997	0.6875928	0.8168582
Phase-1 RCT-174	0.80821495	0.9472386	0.7614706	1.0055421	0.8548963	0.85465007	0.8904523	0.82934004	0.91063154	0.8509398	1.3118658	1.2378584	1.2378584
Phase-1 RCT-77	1.1657331	1.402133	0.5927071	1.0727483	1.0075454	0.8289307	0.83994077	0.7765704	0.804914	0.8096747	1.2597748	1.2101672	1.2101672
Inositol polyphosphate multikinase (pmk)4	1.2332034	1.7722422	0.41603515	0.50332415	0.6194832	1.3011838	1.2222969	0.9791482	1.0828216	0.9327167	0.88563156	1.4987042	1.4987042
Phase-1 RCT-255	1.0287266	1.0267829	0.8192417	0.85397133	0.95928043	0.9612078	0.9343951	0.8522353	0.88817693	1.1777793	1.0157568	0.9538576	0.96746268
Equilibrative ribonucleoside triphosphate-sensitive nucleoside transporter	0.92443955	0.9377082	0.74950397	0.83477076	0.7928226	0.6147487	0.7664698	0.5849325	0.3968633	0.5255488	0.5012438	0.990347	0.8051648
CDK102	1.2209309	1.1735921	1.0741594	1.0521826	1.1242399	1.2018004	1.0128888	1.0189283	1.2485787	1.1901474	1.041217	0.9564659	0.9258443
Phase-1 RCT-209	0.8382675	0.8087604	1.247715	0.83424073	1.0342845	0.766727	0.7633586	0.61470354	0.7474785	0.7474785	0.740865	0.9775442	0.8964036
NADH-cytochrome b5 reductase	1.1029078	0.9746917	0.76472807	0.7650102	0.3488656	0.72588306	0.9555653	0.78585346	0.70755637	0.78585346	1.0253376	0.89577226	0.89577226
Dynactin-1 (D100)	1.1071768	1.0250887	0.83649787	0.83273196	0.9573133	1.0419839	0.9254351	0.8004431	0.88289144	0.8810203	1.0125928	0.80978034	0.80978034
Senescence marker protein-30	1.1176994	0.9005888	0.88092304	0.87977047	1.114304	0.7518531	0.5980846	0.2438912	0.309398	0.6891008	0.1677867	1.0460982	1.1221726
Phase-1 RCT-89	1.0946219	0.8981101	0.7878234	0.90688086	0.932035	0.8632377	0.8296446	0.8372636	0.8309445	0.8691008	0.8231324	0.824704	0.824704
Carnitine palmitoyl-CoA transferase	0.92144378	1.0596149	0.8805389	0.8907098	0.83787193	1.2171605	1.3648597	1.4178693	1.5378058	0.98240781	1.1180823	1.068844	1.0428252
Alpha-2-microglobulin	1.075236	1.254017	0.4731546	0.44711518	0.69735605	1.2794841	1.2852225	1.2278763	1.5517788	1.2278763	1.0285542	0.7215471	0.7215471
ApoB protein CII	1.1006572	1.054559	1.041109	0.85877043	1.0457902	1.0097816	1.041012	0.9882857	0.81321216	0.98879455	0.9889838	1.2155291	1.0541718
Cathepsin L, sequence 2	0.9187442	1.053295	1.323772	1.6699827	1.268942	1.127893	0.7797205	1.0383831	1.1526314	1.1994022	0.8928828	0.8288714	0.812287
Phase-1 RCT-141	2.3570142	3.4748492	3.3231857	4.8327865	3.904397	0.9497877	0.9633335	1.0680087	0.9842038	1.0012814	1.0943615	0.7459462	0.7832313
Phase-1 RCT-289	1.2829828	0.9449768	0.76459768	0.734216	0.8596565	0.78344505	0.8623262	0.7723944	0.8312743	0.77634174	0.7640898	0.9333304	1.0682224
Endothelin-1	1.1486692	1.1508396	1.3465445	0.8454006	0.9428976	0.4978644	0.642778	0.5914478	0.63326047	0.57460994	0.78226194	0.9022728	0.926917
Phase-1 RCT-282	0.78946763	0.7118303	1.034071	0.8221851	0.8770707	1.1128913	1.129359	1.0818352	1.1642278	0.9168768	0.9559118	1.0457143	1.0172075
Phase-1 RCT-140	0.8534831	1.0343523	1.1046199	1.0124578	1.1051724	1.2894878	1.0667271	1.1689207	1.6570951	1.3394581	1.416788	0.8821703	0.9589653
Cyclin D1	0.841392	1.136121	0.8829513	0.53638448	0.5684594	0.8688921	1.1991131	1.0818427	0.97021854	0.9105705	0.76337823	1.138699	1.051129
Phase-1 RCT-287	1.0873841	1.2361023	0.9564118	1.2371576	1.0860394	0.91518146	0.943259	0.95586926	0.67021445	0.70108303	0.5886727	0.741621	1.0153148
Phase-1 RCT-281	1.143911	1.251439	0.9262595	1.370317	1.306317	0.6808624	0.9223145	0.6730667	0.56847605	0.9105705	0.76337823	1.138699	1.051129
Receptor-binding protein (RBP)	1.3501706	1.1224504	0.7853137	0.9804808	0.95523934	1.1973971	0.8678764	1.1850426	1.0577011	1.1995751	1.120872	1.2003382	1.0832228
ATP-stimulated glucocorticoid-receptor translocation promoter (Gy6)	1.1486589	1.0943504	0.92415633	1.1281877	0.92620005	0.75275896	1.0492641	0.8832634	0.5081629	0.6556175	0.649808	1	0.8364268
Phase-1 RCT-60	0.8888804	1.0207963	0.9213362	1.0897968	1.0216076	0.88714006	1.1033844	1.1965562	1.2586281	1.0970411	1.122817	1.0703392	1.2597832
Pyruvate kinase, muscle	0.7800984	0.902185	1.0471895	1.2491783	0.9838086	1.2887633	0.8414723	1.2635679	1.2105728	1.2433457	1.5893304	1.0172545	1.2189789
PAR interacting protein	1.054124	0.9345446	0.9905648	1.0533708	0.8708044	0.85789874	1.0499667	1.0014151	0.95355475	1.0086327	1.0243137	0.8978563	1.0712771
Nucleoside diphosphate kinase beta isoform	1.142893	1.4085383	1.1660791	1.5273639	1.5307045	1.0921172	0.882027	1.1286106	1.3731439	1.1276012	1.0549165	1.0344825	0.98568773
Gadd153	1.013138	1.1860693	1.1560538	1.1675631	1.0255171	1.2819445	1.1944822	1.1410551	1.4994215	1.1879808	1.3056116	1.2054005	1.1358725
Insulin-like growth factor binding protein 1	1.408841	1.4273657	1.1655009	1.1625943	1.3610075	0.9686053	0.9254802	1.0641761	1.0176388	0.95371838	0.97397095	0.943418	0.9609463
c-H-ras	1.2048957	1.4656397	1.3118465	1.378995	1.4539462	0.7347537	0.94246083	0.8874112	0.804673	0.7479881	0.70300907	0.9350114	0.72325706
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	1.0513389	0.89526016	0.6630721	0.7701613	0.5906033	0.70973957	0.7082652	0.47482076	0.41800648	0.57728085	0.61811346	0.9580185	0.75225455
Phase-1 RCT-62	1.150222	1.012481	0.59283515	0.7931949	1.0802552	0.8279913	0.8894288	0.7676254	0.7786338	0.7683724	0.8377238	1.210434	0.9959314
Alpha 1 - inhibitor III	1.1048896	0.7858807	0.55278397	0.57809204	0.5383897	0.51709056	1.1284292	0.6118412	0.49552074	0.64555085	0.5538333	1.4102213	1.1390623
Serol carrier protein 2	1.0309416	0.9623667	0.96872446	1.1973995	0.8878942	0.6661081	0.6865371	0.6865398	0.6457684	0.63709015	0.8321107	0.83367574	1.0140433
Organic anion transporter 3	0.94784566	0.91681343	1.076507	0.8376372	0.879915	1.2519689	0.88467814	0.7035993	1.2978725	1.0973067	1.0853355	1.2188452	1.1004206
Calgranulin B4	1.2082724	1.1203108	0.8383328	1.0171989	1.2223859	1.0542988	0.9638431	1.0238752	0.91697	1.1251256	0.95539945	1.0360569	1.1528017
Phase-1 RCT-182	1.2598532	0.9704608	0.86815868	1.0447692	0.9196985	1.0905079	0.96125007	0.83575203	0.8833732	0.89593727	0.85295835	1.0180123	1.0289793
Calgranulin B8	0.9207471	0.8108312	0.7963557	0.9047789	0.79255325	1.0900605	0.9114527	1.0710406	1.358833	1.1818432	1.235589	0.8724914	0.9650572
Aldehyde dehydrogenase, microsomal	1.2695749	1.9529906	1.0317665	1.1258808	1.2598202	1.0290458	1.0977849	0.9971354	0.8925377	1.0320721	1.001144	0.74487025	0.87841095
Phase-1 RCT-128	1.3334287	1.078281	0.96181706	0.7876903	0.9581407	1.0203385	0.83463925	0.9647871	0.9719171	1.0037056	1.0275246	0.84162277	0.91153606
Phase-1 RCT-102	0.9393332	0.51873606	0.83355586	0.39286873	0.39435538	0.91089076	0.6782553	0.51601034	0.6908931	0.8719171	0.7054934	0.927116	0.9784848
Protein phosphatase, sequence 2	1.0023577	0.7758774	0.5089981	0.5724365	0.725137	1.0308328	1.02269	1.0347441	1.0465282	1.1600777	0.9844789	1.3818153	1.2558588
Acylphosphatase AII	1.3423833	1.342044	1.3373176	1.7873654	1.9022445	0.5207469	0.78848534	0.48210308	0.48923616	0.5953412	0.4860268	0.65307074	0.59283775
Acylphosphatase AII	1.0653129	1.0538461	0.83501	1.0303397	0.8540341	0.9504091	0.835358	0.9081080	0.6196517	1.0148817	0.8700916	1.0938193	0.92528655
Phase-1 RCT-10	1.3178322	1.0085286	0.94962875	0.75137894	0.8254458	0.84574678	0.80186578	1.125082	1.0186876	0.9366417	1.0271327	1.362412	1.2694795
Phase-1 RCT-48	0.9870098	0.7955531	0.83486736	0.59557605	0.74220204	0.8379938	1.128446	1.040724	0.86236893	1.0514843	0.95104825	1.4337853	1.4177071

Table 29

Phase-1 RCT-188	1.2283272	1.2920707	1.0122651	1.2914813	1.0622012	0.8313901	1.0215638	0.90898385	0.7707748	0.91232056	0.8938018	0.8798043	1.0071242
Phase-1 RCT-189	1.0258602	1	0.97405284	1.3547597	1.1727202	0.8951571	0.8628344	0.8911534	0.9731808	1.1609735	1.240819	1.1831139	1.0365148
Beta-alanine synthase	1.5848349	1.3903868	1.2208711	1.3547597	1.1727202	0.8951571	0.8628344	0.8911534	0.9731808	1.1609735	1.240819	1.1831139	1.0365148
Phase-1 RCT-206	1.7470022	0.47660735	0.25894763	0.2967772	0.27316382	0.51014346	0.7218407	0.3454733	0.5133543	0.45507237	0.5802166	0.85791844	0.906784
Carbonic anhydrase III	1.1372169	0.47653582	0.28861688	0.18494962	0.20783718	0.20708542	0.08604532	0.1586079	0.08602536	0.1406493	0.15004124	0.2480069	1.3518391
Phase-1 RCT-291	0.9332075	0.8950595	0.91391534	0.93131713	0.94274706	1.081921	0.9001485	1.1296004	1.1174682	1.174682	1.076194	0.0858755	0.098327
Carbonic anhydrase III, sequence 2	0.1040687	0.0932542	0.603175	0.077827	0.077827	0.3495312	0.861378	0.97553734	0.8611641	1.0630866	1.1523333	1.2728803	1.061615
Phase-1 RCT-271	0.8366124	0.9229604	0.7059657	0.4963457	0.7610422	0.95256203	0.84140754	0.97993654	1.1851102	1.055208	1.277801	1.272436	1.240819
HMG-CoA synthase, mitochondrial	0.8165188	1.0095533	0.8417578	0.871211	0.340697	1.128801	1.3702678	1.688407	1.5119076	1.5119076	1.97109205	1.9642101	1.0649163
Phase-1 RCT-189	1.144452	1.2307031	1.098887	1.047288	1.213863	0.8410226	1.3702678	1.2251792	1.0856558	1.2884689	0.91789205	1.9642101	1.0649163
Phase-1 RCT-40	1.1720355	0.9759463	0.8401215	0.87254435	0.83316506	0.55994177	0.7400384	0.52446467	0.38736087	0.48564743	0.50680246	0.71440593	0.7100032
Urylase protein 2 precursor	1.1284551	0.98195934	0.8693018	0.82392515	0.73381647	0.56930034	0.73287874	0.9732845	0.48378355	0.6075611	0.5860118	0.97879563	0.8334145
Paraoxonase 1	0.9117747	0.79010634	0.59718524	0.59718524	0.7067674	0.59841197	0.83426894	0.505931	0.38970518	0.44398743	0.4688888	0.7139377	0.581012
Liver fatty acid binding protein	1.3157	0.85346826	0.36454397	0.8956245	0.7067674	0.59841197	0.83426894	0.505931	0.38970518	0.44398743	0.4688888	0.7139377	0.581012
Phase-1 RCT-1	1.080808	0.78808174	0.5510523	0.5650078	0.5153295	0.48736048	0.8578972	0.8380894	0.8614574	0.87121803	0.87335767	1.2602017	0.80818677
Phase-1 RCT-38	0.9110029	0.8498891	0.78131175	0.8573137	1.0507302	0.8232455	0.886072	0.8380894	0.8614574	0.87121803	0.87335767	1.2602017	0.80818677
Phase-1 RCT-270	1.0081051	0.9844962	0.92697284	0.84203523	1.0507302	0.8232455	0.886072	0.8380894	0.8614574	0.87121803	0.87335767	1.2602017	0.80818677
Transferrin	1.0226023	0.8438274	0.3471057	0.41231176	0.5059201	0.5974784	1.007511	0.6963937	0.85085365	0.5647217	0.60172385	1.2602017	0.80818677
Hepatic lipase	0.8205195	0.824792	0.6543936	0.821842	0.690928	1.0539837	0.662697	1.24715	0.8159776	1.2627581	1.3763368	0.89510657	1.088205
Phase-1 RCT-117	1.0386028	0.77506936	0.76546806	0.8819234	0.85501915	0.4810971	0.70188135	0.55056908	0.84209705	0.43007913	0.5944326	0.87689154	0.7944946
Cytochrome P450 11A1	1.148423	1.1242033	0.83352145	0.8593465	1.0439534	0.8172657	0.9181441	0.71826977	0.64092428	0.8097438	0.7337374	0.9875637	0.94577
Phase-1 RCT-175	1.5045566	1.3473152	1.286784	1.3926329	1.487847	0.88356766	0.70457405	0.8635302	0.8457088	0.8530837	0.69925433	0.9814768	1.1962621
Phase-1 RCT-137	0.88642873	1.0837882	0.9710498	1.1542249	1.0019233	0.89750203	1.1049553	0.96422774	0.84398516	0.8620257	0.8577123	1.260784	1.1498673
Melanoma-associated antigen ME491	0.9102572	1.0254031	0.8052335	0.8817845	1.1748888	0.86834633	1.280905	1.3661703	0.91070384	0.9068922	1.1713469	1.3823446	0.792513
Phase-1 RCT-152	0.99307036	1.0813404	1.0562707	1.4261672	1.0665971	1.0183005	0.84096324	0.85180226	0.9385829	1.099514	1.220174	1.0377959	0.9662049
14-3-3 zeta	1.008231	1.1158351	0.98164254	1.1151539	1.0103863	1.1247512	1.1877594	1.2310664	0.2952821	0.5013147	0.47553447	0.89407655	0.8275265
Cytochrome P450 2C23	1.087537	0.9182776	0.71258247	0.86191214	0.87765876	0.40878305	0.61470305	0.34091064	0.2952821	0.5013147	0.47553447	0.89407655	0.8275265
Voltage-dependent anion channel 2 (Vdac2)	1.0427508	1.0505138	0.84768804	1.0833425	0.95865336	1.1766588	1.0431111	1.1205034	1.2532245	1.1271888	1.0429481	0.96684897	0.9548269
Phase-1 RCT-154	0.9002547	0.94119155	0.923289	0.99318737	1.0141993	1.175152	1.084165	1.046813	1.0385841	1.0408214	1.0287228	0.9850269	1.0556665
Superoxide dismutase Mn	1.3136895	1.4579132	1.4575801	2.0912318	1.9115899	1.3760295	1.1935889	1.2892783	1.5193555	1.2704139	1.2275697	1.1046427	1.1062655
c-myc	0.9413008	1.2570727	1.2432101	2.089269	1.163968	1.2691678	1.3219734	1.4367251	1.4352366	1.5724199	1.5278071	1.1741862	1.174978
Phase-1 RCT-196	0.98868734	1.0310551	0.7928089	0.8070557	0.92781624	1.3587743	1.1248435	1.244808	1.1353271	1.427053	1.185002	0.946894	0.908353
Cyclin G	0.9439414	1.0605633	1.2003452	1.318227	1.0697398	1.348115	1.2312993	1.1527976	1.892217	1.0820688	1.1678805	1.2959547	0.85777235
Calgranulin B5	0.83043927	0.67963355	0.8993797	0.9172889	0.8905164	1.2768388	1.0206426	1.2038026	1.4908265	1.2768482	1.4625047	1.0532717	1.3002073
p53	1.1289703	1.131571	1.154535	1.308938	1.0153068	1.0691621	0.9087669	0.986008	0.86359847	0.8972056	1.0110146	0.97125274	0.9827684
Phase-1 RCT-205	0.9160821	0.84452383	1.0272211	1.1299479	0.9905042	1.0267532	1.010111	1.0203889	1.0370837	0.9489891	1.0040682	1.077103	1.1246315
Phase-1 RCT-88	1.0765478	1.0822141	1.0803603	1.2140108	1.1720673	1.2886081	1.1694928	1.2685768	1.4107143	1.161459	1.1425786	1.0827061	1.0881326
Caspase 3	0.7601255	0.8322655	1.518375	1.5028728	1.5175288	1.1537789	1.1681061	0.7429723	1.0208973	0.7434965	0.80212754	0.75683817	0.6807896
Alpha-tubulin	1.0215372	1.0436516	0.99436384	0.9838286	1.1711692	1.1731625	0.8500392	1.2524518	1.3399123	1.07709	1.3332914	0.86814647	1.1037214
IgE binding protein	0.8490759	0.92139715	1.1300605	1.1165198	1.0786058	1.0508671	0.984338	1.0810317	0.9442159	1.084842	0.9711917	1.4546252	1.2185714
Phase-1 RCT-39	0.8019081	0.89568304	0.667621	0.824044315	0.82486334	0.926928	1.0216201	0.9282548	0.8462159	1.084842	0.9711917	1.4546252	1.2185714
Coilin	1.01958	1.138625	1.007648	1.1165198	1.0786058	1.0508671	0.984338	1.0810317	0.9442159	1.084842	0.9711917	1.4546252	1.2185714
Heme oxygenase	0.7859155	1.4552926	1.3787824	2.2789394	2.1868176	1.134383	1.1485845	0.9454855	1.0321845	1.2294187	1.3328331	1.0845735	0.8684234
Phase-1 RCT-241	1.2279115	0.477323	1.1868401	1.3671158	1.1734363	1.0803441	0.9840819	1.0020348	0.9519202	1.0480452	1.0738331	1.0845735	0.8684234
Ribosomal protein S9	0.902467	0.8789593	0.9855708	0.9703738	0.8003441	0.9840819	1.0020348	0.9519202	1.0480452	1.0738331	1.0845735	0.8684234	0.9438733
Phase-1 RCT-258	1.1377484	1.1941922	0.694887	1.0419337	0.9429498	1.0438652	1.2862558	1.258215	1.0457597	0.8892027	0.8361498	1.073455	0.8627877
Argininosuccinate lyase	0.92152755	1.100185	1.0685346	1.0267407	1.2216753	1.0371787	1.0347781	1.1908523	1.049871	1.0657126	1.0740785	0.9564257	1.160838
Phase-1 RCT-180	1.0071997	1.1590967	1.0471948	1.2776593	1.0204519	1.038598	1.5686668	1.5602114	1.7821885	1.7821885	1.5754657	1.3874928	1.3881731
Midline resistant protein-1	0.8631284	1.0292185	0.8723652	0.9940076	0.8676066	1.313035	1.2811238	1.3899722	2.094082	2.094082	1.8710811	0.7017548	0.72374135
Onlinine decarboxylase	1.1108308	1.2755048	1.2182832	1.1643329	1.2355655	1.5120194	0.8367472	1.888822	1.7938818	2.097716	1.8710811	0.7017548	0.72374135
Thymosin beta-10	0.7182385	0.7508048	1.046237	0.9083128	0.880883	1.2194732	1.0844666	1.0833468	1.3614608	1.1481786	1.0630473	0.9275208	1.0471257
Phase-1 RCT-72	1.3588493	1.0080182	1.0175283	1.5332206	1.35719	1.631279	0.91258013	1.0456504	1.184129	1.0023848	1.0825773	0.6204044	0.7132627
Phase-1 RCT-109	1.2741594	1.2366216	1.011041	1.1457105	1.0970865	0.9689839	1.0060817	1.006227	1.0637629	1.1246393	1.027111	0.7633197	1.071458
Phase-1 RCT-76	1.0305845	1.0908854	0.76286864	1.1330929	0.92116827	0.7094615	0.8428439	0.52266815	0.8573219	0.5079654	0.9674324	0.88018808	

Table 28

Phase-1 RCT-158	0.8245005	0.84538394	1.0228941	0.95219314	1.0010184	1.1501331	1.0041609	1.0401357	1.223751	1.1997350	1.0857697	0.9035127	0.9619402
Phase-1 RCT-113	0.97182	1.3020202	1.1958336	1.4537338	1.6250739	1.091303	0.94912654	1.0210889	1.1858772	1.1438988	1.0684694	0.8689893	0.9526948
Endogenous retroviral sequence, 5' and 3'	1.3551219	1.1728796	1.219849	1.439765	1.1036044	1.485529	0.895126	0.9100284	0.9278592	1.1088766	0.9358371	1.0346006	0.77154297
LTR													
Beta-actin	1.1084727	1.1757787	0.9432045	1.2399414	0.9699534	1.0199512	1.0837424	1.2853558	1.5535304	1.0538042	1.4361104	0.98050286	1.0174677
Phase-1 RCT-65	0.8041676	0.9139243	1.0784854	1.0165388	0.96494408	1.1604254	1.2680013	1.3825969	1.3287864	1.3053271	1.3071054	1.1113621	1.0977235
MHC class I antigen RT1A1(α) alpha-chain	0.83156604	0.98434087	1.097573	1.0187982	1.068352	0.897892	1.1280353	1.2531792	1.3266507	1.3722026	1.3848878	1.1174863	1.197795
Bax (alpha)	0.97553045	1.1394238	0.49884474	1.0980015	1.0687909	1.3836203	1.5180525	1.557838	1.5934169	1.464502	1.5635858	1.2808216	1.2574457
Carbamyl reductase	0.8571164	0.82558515	0.98085344	0.881352	0.9532286	1.1022089	1.0038049	1.0590098	1.2450377	1.0276369	1.1888652	1.0489371	1.0584143
Beta-actin, sequence 2	1.3862241	1.2607368	1.0574532	1.2597544	0.98934274	1.0022897	1.0091155	1.1262896	0.9433262	1.0830062	1.0020446	0.7523173	0.92014027
Interleukin-10	1.1261995	1.2668701	1.1362816	1.180035	1.0285589	1.2447938	1.1992888	1.2673883	1.2053832	1.1478766	1.0864506	1.1209537	1.0838162
Phase-1 RCT-191	0.819453	0.9079863	0.8570923	0.9070302	0.8206388	0.8987376	1.407268	1.1853618	1.1184291	0.98501825	0.8941214	1.2241559	1.3598039
Phase-1 RCT-111	1.2927178	1.2180213	0.93236834	1.075315	1.0878592	0.98719684	1.0195788	1.0716122	1.0303217	1.0369052	0.99287047	0.7447676	0.90530658
Apoptosis-regulating bcl2 protein	1.0992397	0.98781735	0.74522096	0.8653969	0.97777075	1.0745504	0.9074797	0.91447943	0.831048	1.0513117	0.924649	0.9340478	0.8650107
Glutathione peroxidase	0.9709976	0.6348981	0.37777272	0.5252379	0.60250086	0.41160108	0.8950009	0.33638682	0.43280676	0.40953097	0.3594439	0.8928692	1.3040823
Phase-1 RCT-239	0.79425543	0.8391464	0.9086711	0.81164956	0.7864884	1.2491986	1.3014317	1.5840556	1.8645159	1.7338325	1.5355486	1.2518769	1.2414868
Tryptophan hydroxylase	0.93994335	0.860144	0.8850092	0.8733498	0.8880286	1.0400308	1.0396456	1.0143063	1.1188953	1.0014374	1.0846967	1.087328	1.0361091
Sulfotransferase K2	0.9614731	1.0724406	0.9594587	1.2105042	1.1374114	0.94416724	0.7803571	0.8878337	0.65719867	0.6089748	0.55584856	0.865491	1.0361091
Calgranulin B9	0.920428	0.8113846	0.91672796	0.797524	0.8483384	1.0424395	0.9723459	0.9165938	1.1006608	1.0223855	1.083723	0.9716157	0.98015586
Phase-1 RCT-123	0.94581276	0.9414672	1.1219649	0.9344605	1.0065897	1.032389	1.0735104	0.97036948	1.1874835	1.068932	1.0515445	1.1134478	1.0472106
Phase-1 RCT-88	0.9501401	0.9882243	0.9405958	0.94542867	0.98184675	1.5122837	1.2664871	1.523892	2.0524304	1.8776593	1.4716297	1.2723398	1.1523595
Aquaporin-3 (AQP3)	0.8053244	0.86782247	0.697952	0.84386473	0.903353568	0.955961	1.038413	1.0198241	1.0059326	0.9026322	0.9102765	1.083147	1.1416555
Steryl-CoA desaturase, liver	0.40879953	0.57563408	0.113544258	0.0595092	0.17605068	0.34769202	0.8644485	1.0508335	0.8188581	0.5401845	0.628873	1.1634119	1.7371675
Phase-1 RCT-84	0.9289723	0.9570798	0.7664407	0.683589498	1.0274258	1.1499693	1.0354106	1.0481336	1.088807	1.046755	0.9903115	1.0084234	1.0842452
(1) Gene expression data for 24 hour													
timepoint are presented as mean ratio of													
treatment/control for all 24 hour predictive													
genes (Table 5).													
(2) Compound and dose abbreviations as in													
Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for													
compound-dose group at 72 h: yes=recr,													
necrosis observed; yes-both, necrosis with													
inflammation observed; no, no histopathology													
observed													
(5) Predictive gene (as in Table 5 and as													
included in Table 26)													

Table 29

Table 28. Expression Data for 24 Hour Timepoint (1)													
Compound-Dose (2)	DIF 25	DIF 100	DIF 254	DIF 100	DIF 255	DIF 100	DOX 12	DOX 12	ERY 40	ERY 40	ERY 40	ERY 160	ERY 160
Animal Number (3)	no	no	no	no	no	no	no	no	no	no	no	no	no
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	0.9845947	0.9753384	0.9208074	0.9002559	0.95343276	0.7112135	0.81713045	0.84032728	0.5834105	0.70894665	0.70894665	0.70894665	0.70894665
Gamma-actin, cytoplasmic	1.1301882	1.0904553	1.2827536	1.1535939	1.1488866	0.92607486	0.8437133	0.9145744	0.6418888	0.79023767	0.79023767	0.79023767	0.79023767
Phase-1 RCT-145	1.0453503	0.7287909	0.9086292	0.81214005	1.2922177	1.4613828	1.1719854	0.9731595	1.162525	0.95640415	0.95640415	0.95640415	0.95640415
Gad45	1.0562271	1.1915442	1.0790093	1.056064	0.96392314	1.0131279	1.3048751	1.0914378	1.0743146	1.145496	0.99779034	0.9854599	0.9854599
Phase-1 RCT-78	0.8881792	0.950752	0.9128254	0.95399106	1.3586603	1.3594423	1.2873343	0.855962	1.2765287	1.4816856	1.0371265	1.1640005	0.98519744
Fas antigen	1.0497901	0.9137354	0.9077785	0.94014887	1.6733148	1.2556112	1.0009198	1.076359	1.2403077	0.7968714	1.0720333	0.9714784	0.98619744
Macrophage inflammatory protein-2 alpha	0.9904251	0.8444621	0.88285615	0.8413937	1.1281446	1.1198812	0.9654173	0.884865	1.0470639	0.874069	0.81623033	0.64762435	1.0039043
Integrin beta1	1.0766408	0.7467794	0.9488957	1.0776221	0.9848044	1.1709065	0.7424223	0.67269146	0.6372305	1.2623355	1.162607	1.0661764	1.1887085
Phase-1 RCT-207	0.7839273	1.012397	1.1088802	1.008178	0.92427635	1.3692247	0.8252609	0.61789158	0.8252609	0.61789158	0.8252609	0.8252609	0.8252609
Aspartate aminotransferase, mitochondrial	1.4848834	1.1657082	1.1498065	1.1745426	0.8558877	0.8210029	0.5841139	1.0204809	0.51913246	0.7949602	0.8231848	0.6738884	0.95993384
Casein-alpha	2.010153	0.984226	1.1977768	1.1382384	0.8512079	0.86138454	0.90531735	0.8226769	0.52541538	0.3851185	0.54261756	0.39643005	0.97042844
Malic enzyme	1.5465015	0.79822177	0.9686711	0.93954484	0.8294607	0.6287108	0.8152591	0.9361319	0.43790666	0.83155143	0.712427	0.5995988	0.76565544
Phase-1 RCT-30	0.8949935	0.8609314	0.8487038	0.860647	0.87703636	1.440621	0.8082206	0.8811627	0.82127	0.7379775	0.85020214	0.5845061	0.84222114
Hepatocyte growth factor receptor	0.95828	0.9533388	0.90167205	0.80702724	1.1288084	1.2785695	0.8532687	0.8319437	0.9445063	0.78248346	0.9386709	0.48687708	0.995311
MAP kinase kinase	0.5650205	0.6329358	0.6068743	0.63430334	1.1287601	1.1842825	1.2361148	0.7275748	1.9585137	1.7374471	1.8867441	2.9958658	1.4167717
Sodium/glucose cotransporter 1	0.60824266	1.2631154	1.4800588	1.0758955	0.96433944	0.18152991	1.7616166	0.6086937	0.48332488	0.37789857	0.52029	0.77541304	0.5918237
Phase-1 RCT-27	1.3020525	1.0947018	1.134381	1.1388752	0.88817617	0.94710286	0.5152757	0.9584645	0.6909646	0.7385512	0.85531106	0.5807592	1.3014731
Phase-1 RCT-50	0.81595355	1.0317818	1.0313817	0.98084084	1.0844675	0.89543524	0.8644448	0.77897197	0.9775404	0.93064374	1.0534642	1.1018441	1.3014731
Phase-1 RCT-192	0.80184588	0.77469075	0.83449854	0.8327688	0.8631547	0.65147895	1.0786632	0.7213675	1.2325849	0.6033554	0.74083143	1.0914593	1.0914593
Phase-1 RCT-288	0.9016812	0.8902634	0.99599994	0.9565274	1.0449872	1.0957305	1.0786632	1.1470929	1.213584	1.2854525	1.9410114	1.934087	0.97297857
Organic cation transporter 3	0.68142664	0.8090365	0.92759474	0.90314835	1.4971648	1.5980235	1.0785388	0.95491685	1.246559	1.336564	1.1748828	1.3762009	0.7170525
60S ribosomal protein L6	0.7029315	0.8469934	0.92746365	0.90051223	1.4460454	1.5024986	1.2947186	0.80960435	1.3291594	1.3592761	1.3897492	1.3923753	1.1742439
Zinc finger protein	0.9336498	0.8931084	1.0459792	0.98552275	1.0369691	0.96553676	0.5982894	0.68608207	0.4633595	0.9211642	0.6985932	0.90009806	0.5840035
Calgranulin B2	1.013883	1.0054682	0.92542714	0.88774544	0.8456205	0.8144213	1.0140498	0.93730327	1.2037878	1.0156177	0.87572084	1.0492368	1.0492368
ILD-1	1.250535	0.92166615	0.9525418	1.0068107	1.5117502	1.5514623	0.8618993	0.7703483	0.9531873	0.735415	0.8118457	0.6086817	0.65789443
Phase-1 RCT-92	0.87879826	0.9841723	0.7470164	0.9490318	0.7962785	0.775983	0.40418276	0.70406525	0.46298607	0.81228234	0.69781736	0.44147542	0.79755276
Phase-1 RCT-115	1.639739	1.0114935	1.3357266	1.1579952	0.7495084	0.775983	1.015736	0.925684	1.0159781	1.2375278	1.1644898	1.2189197	0.8688852
Matrin F1G	0.82238525	0.9067551	0.9304595	0.91817217	0.7384559	0.95465206	1.089792	1.4119402	1.2482415	1.2307322	1.0243425	0.87398827	0.87398827
MLL homologue (MLH1)	1.1228796	1.038397	1.0655627	0.96203604	0.9012452	1.1846628	0.87331858	1.1665455	1.270707	0.8762715	0.88317394	0.71742153	0.8817553
Phase-1 RCT-79	1.1883115	0.6955902	1.007627	0.95343009	0.9898845	0.8324709	0.7493838	0.4596398	0.92380273	0.83296987	1.1788293	0.8542332	0.85162053
Sorbidol dehydrogenase	0.8742883	1.0131712	1.031558	1.0733597	1.3096789	1.1398464	0.87331858	1.1665455	1.270707	0.8762715	0.88317394	0.71742153	0.8817553
Phase-1 RCT-24	1.5861284	1.2956191	1.5939881	1.5034037	0.8490228	0.8597124	0.6398526	0.408829	0.6289151	0.8491427	0.6712122	1.3282114	0.90868586
Calgranulin B1	0.8283518	0.8061503	0.8942968	0.96990584	1.0238695	1.1655209	1.2474004	0.9480777	1.3198504	1.2563381	1.1903315	1.0827103	1.1037532
Elongation factor-1 alpha	0.8293921	0.97413	1.0184639	1.1455259	1.1117885	1.5073308	1.2662968	1.2598837	1.5788334	1.4898823	2.0097537	1.693962	1.2515804
Lactone-gamma-lactone oxidase	1.3397641	0.92172766	1.2478249	1.0314366	0.63131624	0.5920211	1.3638988	1.2617328	1.0358843	1.5578626	0.85946125	1.0645004	1.0645004
Phase-1 RCT-33	0.9065056	1.020057	0.94307435	0.9053095	1.0724941	0.772337	1.849916	0.87267256	1.673844	1.1651813	1.1581932	1.4595691	1.339211
G-actin	1.458878	1.023888	1.2425881	1.3004484	1.8220823	1.1018781	0.7979035	1.1496426	0.9088701	0.8409447	0.9803342	0.8164377	0.7805445
Phase-1 RCT-233	1.3434675	1.0194436	0.84192103	1.1580325	0.58097947	0.7163761	1.500345	0.5027693	0.9803376	0.81693185	0.625665	0.6088505	1.0373302
Phase-1 RCT-38	1.0875279	1.0832105	0.9253519	0.9847777	0.9433672	0.7948577	1.1859951	0.7590257	1.1177848	0.9616723	0.97176814	1.1412898	0.9784639
Phase-1 RCT-242	1.5524218	1.2468484	1.3147545	1.3025866	1.4110525	0.94933486	0.6898842	0.5412219	0.56921667	0.88988655	0.79499036	0.8210483	0.8002034
Phase-1 RCT-181	1.1123165	0.93555415	0.9687043	1.0504079	0.9068765	0.73002064	0.91705	0.82063	0.83954346	0.8340051	1.0709483	0.9943795	1.0694084
Phase-1 RCT-185	0.8808893	1.1570312	1.288035	1.156815	0.7479717	0.8242129	0.94755894	0.7308424	0.9092249	0.85177207	1.090487	1.2458787	1.0902704
Phase-1 RCT-179	0.7074234	0.8733484	0.9278275	0.8531704	1.3983594	1.0014802	1.3148415	0.7043766	0.9626251	1.5324435	0.46022314	1.3280224	1.0384006
Phase-1 RCT-144	1.1295192	1.2953198	1.1583499	1.1587565	1.124239	1.0434558	0.8758742	0.7410977	0.7930888	0.8380975	0.9137664	0.80504614	0.9699837
ILB-a	0.8847584	1.0159202	1.0271039	1.1917552	1.1917552	1.1917552	0.747353004	0.81497514	1.1345508	0.9818451	1.1345508	0.9818451	1.4478893
Phase-1 RCT-225	0.86502743	0.9891004	0.9053392	0.85022166	0.42821598	0.60792265	1.3864578	1.2612184	0.92345538	1.2612184	0.92345538	1.2612184	1.0329721
60S ribosomal protein L6 (alternate clone 1)	0.788356	1.0216589	0.9708834	0.88188598	1.0448707	1.1887455	1.3267968	1.3866653	1.5033104	1.5365924	1.8075202	1.8546329	1.0314767
Beta-tubulin, class I	1.9077431	1.3603464	1.9078476	1.3034828	0.7647865	0.85420483	0.6582632	0.7141493	0.85020405	0.5189703	1.0424433	0.68625684	0.8195305
Multidrug resistant protein-2	1.2153562	0.9506979	1.0054368	1.0899405	3.223388	1.3437201	1.2437081	1.348887	1.2123268	1.0143783	1.69789	0.80128355	1.0006652

Table 29

Phase-1 RCT-49	1.0496899	1.1463145	1.0566967	1.0639055	1.0551783	0.9813357	1.1229011	0.7007593	0.9866285	0.8708764	0.9094061	0.87728107	0.84981835
Calgranulin B3	1.0657272	0.9338867	0.94990325	1.0747455	1.0599662	1.2980436	0.9074928	0.7328645	0.8738437	0.8904017	0.9090605	0.8904017	1.0532862
NADP-dependent isocitrate dehydrogenase	0.8221185	1.11310	0.99890443	0.9249451	0.8428852	0.9602853	0.9172728	0.9833589	1.5472912	1.2242552	1.8005683	1.1809169	
Oxodolic	0.948522	0.885006	0.8978531	0.8212372	0.8256007	0.92556316	0.98724836	1.4576346	0.89750355	1.1269599	0.934388	0.7875929	0.97645596
Oxamer binding protein 1	0.6845965	0.9376078	0.9386273	0.7201437	0.7137379	0.9612484	2.80721728	2.9322681	2.9010882	2.097394	0.9115224	1.4216633	1.3401401
Sodium-like acid cotransporter	1.1965651	1.2314078	1.2078274	1.2030323	0.7681459	0.9654056	0.80327314	0.7653621	0.9070075	0.9025396	0.9025396	0.9094584	1.292167
Phase-1 RCT-174	1.0689751	1.1634643	1.1012257	1.1386285	0.79124008	0.909195	0.85993946	0.8226712	0.98155665	0.8076355	0.88371276	0.9303151	1.3125196
Phase-1 RCT-77	0.71128017	1.4137331	1.2208803	1.281418	0.98265669	0.7432373	2.5558458	1.8828884	3.0068933	1.4906067	1.7173597	1.8781348	2.1963668
Inositol polyphosphate multikinase (IpMK4)	0.9182549	0.9607895	1.0270376	0.98799294	0.6277827	0.75940937	2.2057862	1.4864442	2.2053957	1.5591078	1.6899713	1.5582178	1.0741428
Phase-1 RCT-256	0.79978347	0.9942468	0.89845616	0.7852143	0.7094553	0.8872844	0.99430144	1.2591829	1.2500876	1.3061357	0.74548095	0.8764174	1.1434855
Equilibrative nitrobenzyl/biotininosine-sensitive nucleoside transporter	0.8635865	1.0951256	1.0665168	1.0330065	0.92219514	0.88762885	1.306551	1.3602637	1.339011	1.2823501	1.2336003	1.3159884	1.1386791
CDK102	0.9283878	0.99077084	1.0641462	0.9635988	0.86508105	0.8578967	1.018915	0.9624992	1.339215	1.154283	1.1808035	1.3193188	0.9160783
Phase-1 RCT-209	1.0863786	1.2155377	1.2548277	1.2548277	0.9387091	0.5738726	0.789344	0.9679598	0.6979598	0.7207519	0.7140048	0.9185089	1.1847454
NADH-oxochromone b5 reductase	0.7601103	0.91612744	0.7210858	0.85770273	0.7402272	0.8494076	1.925274	1.4394305	1.7830293	1.1912495	1.1977648	1.4523342	1.1327395
Dynamin-1 (D100)	0.6569196	1.1076238	1.0750107	0.80798259	0.6753206	1.0880922	1.7453419	1.8887128	2.0194868	1.7917244	1.4273145	1.0728071	1.7597583
Sensory marker protein-30	0.79287267	0.9593717	0.8756584	0.8525919	0.60733473	0.73443234	1.920813	1.6473448	2.3859704	1.6974288	1.2814408	1.8845182	1.1542516
Phase-1 RCT-89	1.4215988	1.1251553	1.4755423	1.1540862	1.487699	1.1172764	0.74559194	0.9330917	0.9034512	0.6441882	0.83351905	0.7087873	0.6746408
Camitine palmitoyl-CoA transferase	0.8190876	0.8436073	0.85716295	0.7939953	1.2637137	0.670557	1.433885	1.0070012	0.99007108	0.9185927	0.61208875	0.72452116	1.4078329
Alpha-2-microglobulin	1.0346555	1.1327796	1.2287922	1.0859468	1.3784631	1.386772	0.9528867	1.115581	1.1459274	0.7022407	0.7688034	0.92870735	1.5328319
Adiponectin C11	0.8716458	0.9307667	0.92119014	0.8307842	1.0108573	0.9150278	1.0718783	1.311442	1.4819859	1.8974347	0.7350342	1.9309031	1.1858974
Calphosin L sequence 2	0.8401357	1.04981	1.0355375	1.0453228	1.3475804	3.6444163	1.9478687	1.587917	1.9542759	1.561333	0.98997897	0.8168762	1.0386863
Phase-1 RCT-141	0.8332412	1.0838839	0.85147663	0.7573067	0.8035564	0.7283978	1.4534383	0.9184087	1.561333	0.98997897	0.8168762	1.0386863	1.358595
Phase-1 RCT-289	1.1492855	0.9205761	0.985056	0.8000453	1.1563579	1.0253247	0.69303826	0.76375914	0.80452485	0.629405	0.77766916	0.6245192	0.67841977
Endothelin-1	1.3449955	1.0728124	1.0812023	1.034685	0.8885895	0.8187075	0.73839876	1.1277374	0.64334788	0.95578307	0.8103441	0.68844916	0.826731
Phase-1 RCT-140	1.0563068	0.9211775	1.0366465	1.0923948	1.043993	0.9478623	0.7385589	0.7755341	0.7045352	0.8522909	0.7518828	0.8512258	1.3115693
Cyclin D1	0.9832412	1.0838839	0.85147663	0.7573067	0.8035564	0.7283978	1.4534383	0.9184087	1.561333	0.98997897	0.8168762	1.0386863	1.358595
Phase-1 RCT-287	0.96390356	1.0386464	1.0973172	1.0665128	0.789476	0.9007706	1.21536647	1.3727159	1.7575178	1.3727159	1.5253152	0.99468816	
Phase-1 RCT-281	0.86842221	0.8644875	0.72371054	0.9194327	1.3053741	0.8776298	0.82482176	0.8082074	1.1572374	0.86871185	1.2027005	1.2939408	
Retinol-binding protein (RBP)	0.7946978	1.3946306	1.468676	0.9433083	1.2243329	0.8886871	0.94747527	1.4382583	1.12889	1.4929142	1.4481272	1.5939444	
ATP-stimulated glucocorticoid-receptor	0.7840271	0.9727504	0.8838601	0.9391459	0.78801947	0.75681247	2.3252351	1.1602403	2.184403	1.8486845	1.1626339	1.2025315	1.0322866
Transcription promoter (Gy4)	1.2877758	1.1862127	1.1637993	1.2092979	1.0983328	1.428693	0.7773729	0.595055	0.7038553	0.9963528	0.9788482	0.7978531	1.2566281
Phase-1 RCT-60	1.7559134	0.8955557	0.89918543	0.83377737	0.81893235	1.0324525	0.761744	1.1551427	1.057123	1.0749912	1.1219273	1.0962286	0.8073222
Pyruvate kinase, muscle	1.0350841	1.2932757	1.3033093	1.1574073	1.3690559	1.0953247	0.8671227	0.72016727	0.9708334	0.9441991	1.0625031	0.90041694	0.9889717
PAR interacting protein	0.81411898	1.2014649	1.2682381	1.1269659	0.86628014	1.388898	1.1031327	1.0152477	1.0638169	0.93228665	1.3054498	1.090787	1.131739
Nucleoside diphosphate kinase beta isoform	1.3992534	1.088144	1.2021248	1.3894658	1.7199167	1.7340665	0.9036861	1.0574546	1.1207694	1.0782987	0.87574786	0.7575757	0.7977565
Gadd153	0.6840662	0.82376225	0.7078913	0.65515804	1.3940378	0.8652287	0.9195065	1.0170423	1.3417126	1.4057484	0.8920356	1.0410599	1.0447339
Insulin-like growth factor binding protein 1	0.75215554	1.0742891	1.0853562	1.0155398	1.0476233	1.5221459	0.8271519	0.7747231	0.9327555	1.2555654	1.4023541	1.2206491	0.81715788
C-H-ras	0.63686566	0.9688804	0.8405594	0.76021683	0.76598936	0.9505644	1.8756074	1.8997283	2.1344118	1.8403942	0.974141614	1.354081	1.2011105
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	0.8959946	1.2378711	1.3725272	1.2833401	0.43398395	0.93855186	0.92397696	1.8030474	0.9093986	0.7703884	0.6152932	1.1428844	1.307945
Phase-1 RCT-52	0.83182305	1.4007106	0.8277981	1.1251445	0.97341863	0.77680403	1.464841	1.8750519	1.4688511	0.83725556	0.747706	1.4316047	1.7412591
Alpha 1 - inhibitor II	0.8185799	0.97614247	0.952818	0.89192513	0.86857234	1.0243411	1.5808119	1.132118	2.09583	1.5110889	2.0090313	1.9241412	0.76366214
Sterol carrier protein 2	1.070038	1.0221021	1.0430606	1.0006036	1.033883	0.94072837	0.9400304	1.2312672	0.8949014	0.6914157	0.6557858	0.5875568	0.95054783
Organic anion transporter 3	1.0368013	1.128741	1.2260255	1.1903139	0.8174194	1.0707477	0.9407637	0.61045645	0.8168197	0.8500205	0.8428488	0.8484807	1.0456159
Calgranulin B4	0.81455034	1.1537232	0.96542996	0.9188481	0.691695	0.8095816	1.0213171	1.1853085	0.8568787	1.0733824	1.0866082	1.0488182	1.2388208
Phase-1 RCT-182	0.80381354	1.0804116	1.087801	1.0012845	0.6530818	0.61391276	1.3445786	0.8950122	1.281331	1.1215558	1.0824614	1.1211517	0.92489884
Calgranulin B6	0.807054	1.0032759	0.9922893	1.020697	1.0348674	0.9636791	1.7618445	1.1200568	1.4864833	1.1782433	1.3343514	1.1736747	1.2418784
Acyl-CoA dehydrogenase, mitochondrial	0.94879894	0.90755767	0.72787408	0.8744426	0.6103814	0.828852	2.8452815	1.6105067	0.3078788	1.411337	1.3571572	1.7390712	1.2062258
Phase-1 RCT-128	0.58129114	0.7926087	0.98415077	0.764228	0.9491943	0.9491943	0.9491943	0.9491943	0.9491943	0.9491943	0.9491943	0.9491943	0.9491943
Phase-1 RCT-102	0.80343246	1.46013125	1.1514605	1.2184325	0.9643043	0.8491943	0.8491943	0.8491943	0.8491943	0.8491943	0.8491943	0.8491943	0.8491943
Protein kinase, sequence 2	0.60331414	1.46013125	0.65289306	0.44283204	0.88469666	0.44283204	0.88469666	0.44283204	0.88469666	0.44283204	0.88469666	0.44283204	0.88469666
Apolipoprotein AII	0.7268845	1.134036	1.0476726	1.0688291	0.6678274	0.98816564	1.9857225	0.7762741	1.3474374	1.5017882	0.8270967	1.4566771	1.2786625
Phase-1 RCT-10	1.070865	1.5748872	1.8059895	0.8325086	1.0942042	1.0646038	0.7762741	1.3474374	1.5017882	0.8270967	1.4566771	1.2786625	1.413782
Phase-1 RCT-48	0.8952881	1.4457135	1.2248868	1.11473	1.0983503	0.83016187	2.0186927	1.4881655	2.1875398	1.09518	1.2304908	1.4811486	1.8259107

Phase-1 RCT-168	1.0921726	1.2053452	1.0958936	1.075449	1.102885	1.1008118	1.5757682	1.4902486	1.5104128	1.3677459	1.4286089	1.2159727
Phase-1 RCT-169	0.9862185	0.92394197	0.69378066	0.9766232	0.802311	0.8506036	1.7924161	1.362853	1.5018926	1.4841358	1.5591816	1.0508610
Phase-1 RCT-170	1.0703646	0.62277627	1.4202628	1.3389153	0.48432966	1.364337	2.4401781	1.9574517	2.300102	1.4510728	2.5463014	1.4152352
Phase-1 RCT-206	0.6310231	0.3333827	1.0349462	1.2027483	0.9363716	0.32943535	1.3541422	1.2820005	0.6198004	0.6096316	0.81710374	1.3287432
Cardiac anhydrase II	0.87455946	2.699336	1.616605	1.0263966	0.6678135	0.3929236	1.0248159	0.4751967	0.1399293	0.7375369	0.37453743	1.1060599
Phase-1 RCT-201	1.0078578	1.1619845	1.1672877	1.0881014	0.8345833	0.85057567	0.78636073	0.9178206	0.7504244	0.8155296	0.8456877	0.9363224
Carbonic anhydrase III, sequence 2	0.9322353	0.9973978	0.70198005	0.9078355	0.7869473	0.6891431	1.2607366	1.2035571	1.7175385	0.7513359	0.7663074	0.7646412
Phase-1 RCT-271	1.3997865	0.94410735	1.1792747	1.0024462	0.7188248	0.6880351	1.5033168	0.94878956	0.90878956	0.6585584	0.9075916	0.84083764
HMG-CoA synthase, mitochondrial	1.1861613	1.0712596	1.5983198	1.4528864	0.85236764	0.48113066	0.761042	0.5718495	0.8566988	0.9677858	1.5402299	2.243597
Phase-1 RCT-189	1.0044333	0.9475676	0.9228454	0.81142735	0.8105365	1.7235689	1.3627165	1.3627165	1.3627165	1.3627165	1.3627165	1.3627165
Phase-1 RCT-40	0.7252309	1.1329285	0.8466555	1.0477209	0.7532008	0.8540157	1.1530971	1.1735761	1.5040301	1.1773834	1.3875375	1.2794034
Uridine phosphorylase precursor	0.5270888	0.69331634	0.74524126	0.57624126	0.6924334	1.2469178	2.8324342	1.2672375	3.0221741	2.216673	1.756264	2.9005635
Paraoxonase 1	0.55655768	0.79704237	0.7362121	0.70145386	0.9174501	0.9899404	1.2883409	1.869949	1.5313503	1.0477068	1.451033	1.5317068
Liver fatty acid binding protein	0.5145845	0.6751255	0.7179415	0.8231073	0.7176926	0.8174826	2.494362	2.494362	2.494362	1.0890082	1.1234883	1.5622343
Preserilin-1	0.8620833	1.3936377	0.83080756	1.166889	0.86354155	0.7726709	1.7223827	2.1529126	1.5100638	0.949911	0.7579392	1.4208465
Phase-1 RCT-38	0.8141939	0.9931758	0.9538498	0.9665953	0.6593506	0.7590086	2.2436502	1.4070039	2.276938	1.5520038	1.6892585	1.6087739
Phase-1 RCT-270	0.87806114	1.1227897	0.890972	1.0871042	0.8331319	0.7512426	2.186794	1.2634829	1.6172161	1.4018955	1.3087228	1.3317896
Transferrin	0.5503009	0.7018675	0.5888646	0.6222847	0.8852858	0.6974813	1.9787488	2.320032	3.150734	1.089721	1.922778	2.1254022
Hepatic lipase	0.8213968	0.8016127	0.7073626	0.76105523	0.63873989	1.1117998	1.9171606	1.9213138	0.9223964	0.86978275	0.84813184	1.017036
Cytochrome P450 11A1	0.7380168	0.96016127	0.91792744	0.74510723	0.67568415	1.0830951	2.680363	1.9020222	2.5461254	0.7826093	0.6535822	0.8768533
Phase-1 RCT-175	0.7588885	0.92875767	1.4468027	0.90779823	0.9203667	0.89880663	1.3053929	1.211528	1.3318249	1.810253	1.3744234	1.7151471
Phase-1 RCT-117	1.1519722	0.7961746	1.4468027	1.3560256	0.47758108	1.1952397	1.8071829	1.6583085	1.8017474	1.0388724	1.2675313	2.2770842
Phase-1 RCT-137	0.77941424	0.8725105	0.95271796	1.0686268	0.8455534	1.1713247	2.3404415	1.1240724	2.407337	1.6187182	2.1235428	2.3856025
Melanoma-associated antigen ME491	0.736861	1.984151	1.601275	1.0415839	0.9881353	0.85987484	1.1084788	0.8674686	1.0899904	1.2789402	1.3931452	1.81026545
Phase-1 RCT-12	1.4526114	1.4174402	1.7893742	1.4053019	0.9186057	0.8844246	0.71409494	0.6780132	0.807696	0.6222308	0.8504101	0.5237246
Phase-1 RCT-152	0.6566529	0.86272715	0.7493968	1.3007702	1.6328704	2.3116677	1.6328704	2.3116677	2.3116677	2.0795898	2.0914745	2.6181242
14-3-3 zeta	1.0677679	1.1530578	1.2453339	1.0753651	1.101815	0.62333494	0.72831508	0.70560727	0.8457143	0.7434449	0.53010094	0.86054231
Cytochrome P450 2C23	0.5363411	0.7690223	0.8762356	0.76158834	1.0136195	0.8975925	1.1679808	0.92984946	2.186432	0.9470668	1.3102406	1.5328597
Voltage-dependent anion channel 2 (Vdac2)	0.89630044	1.0214832	0.9994822	1.1513641	1.1655413	1.0023037	1.0023037	0.9455403	1.0771772	1.0347421	1.2847134	1.1473079
Phase-1 RCT-154	0.9976771	1.2471428	1.2551316	1.1589812	1.8150673	1.290509	1.1180175	0.78635556	1.0114678	1.1162048	1.1195285	0.69331545
Superoxide dismutase Mn	1.0694853	1.0778945	1.0572224	1.172151	1.3473337	1.2468005	1.9742026	1.7422863	1.9135005	1.9883803	2.6762848	1.6509039
c-myc	1.5797335	1.186149	1.4352084	1.3868939	0.97674614	1.0438954	1.1974717	0.878688	0.74794885	0.9427356	0.934615	0.8385905
Phase-1 RCT-196	0.94055974	0.8508976	0.8534478	0.75824475	1.2183743	0.8984557	0.7370881	0.71876038	0.5734302	0.9785142	0.6721038	0.77449816
Cyclin G	1.3878073	1.1336772	0.9629484	0.8362814	2.7899957	2.3397868	0.7886401	0.8259432	0.74516594	0.8870055	0.7960341	0.750717
Calgranulin B5	1.347355	1.2668838	1.5881437	1.4668937	0.99746543	0.9553957	1.028134	0.49001384	0.8459045	0.9389193	0.81265134	0.93753064
Phase-1 RCT-205	0.9944749	0.9572005	0.93187445	1.0830653	1.303493	1.4104387	1.6058685	1.2048452	1.8012113	1.115948	0.91026088	1.0248368
Phase-1 RCT-68	1.2859077	1.232409	1.1318395	1.0743102	0.98791846	0.9607557	1.3263571	0.70734376	0.9757852	1.4601874	1.2633361	1.5435241
Alpha-tubulin	1.2007613	1.1402569	1.221857	1.1311085	0.9997844	1.2364088	0.9859434	0.92383355	0.97617406	0.98278475	1.1401714	0.9926258
Caspase 3	1.1006147	0.8197416	0.88866845	0.644524	1.4940335	1.4940335	0.9851417	0.48625796	1.1107595	0.559883	0.8912837	0.8859738
Ribosomal protein L13A	1.2098488	1.066072	1.4211031	0.9851417	1.4917843	0.78992356	0.74696743	0.9547909	0.7689925	0.8641595	0.84432985	1.3671165
IGF binding protein	0.7479776	0.72154534	0.7899569	0.98187894	1.578077	1.0621145	1.6782147	1.0505928	2.543328	1.733376	1.5987842	1.4059458
Phase-1 RCT-39	0.92413974	0.82887086	1.0536855	1.0822908	1.0572431	0.9033317	1.824845	1.2871934	1.0357251	1.7931908	1.2416072	1.3345616
Cofilin	1.030254	1.4807254	1.2811771	1.1888653	1.1980536	1.09257	1.3460837	1.2514149	1.5662527	0.7586625	1.3986899	1.2835791
Heme oxygenase	0.9342359	0.8846934	1.0408093	0.8662071	1.064681	1.1228601	1.240772	1.6822037	1.4343596	1.999213	2.1433775	2.655374
Phase-1 RCT-241	1.0652418	0.802194	0.9622636	1.0498322	1.071882	1.3263177	0.80213804	0.86632395	1.78139633	1.868235	0.7797346	1.8610184
Ribosomal protein S9	0.79122436	1.027324	1.0239946	1.0765357	1.2614537	1.5171708	1.2018086	1.2504216	1.2981393	1.3898	2.142252	1.439242
Phase-1 RCT-258	0.9757629	0.8868035	1.067213	1.0447125	1.0262396	1.0742414	0.80788124	0.7461768	0.843076	0.92428444	0.8881315	0.643728
Apicomplexan tyrosine	0.8662555	1.1904318	1.039255	1.1228601	0.94237556	0.98085284	0.82827644	0.69784796	1.0573006	1.273324	1.0504124	0.85508674
Phase-1 RCT-180	1.1655883	0.85520675	1.076811	1.0319508	0.94237556	0.98085284	0.82827644	0.69784796	1.0573006	1.273324	1.0504124	0.85508674
Multidrug resistant protein-1	1.4882226	1.603518	1.6283337	1.7581807	0.7347754	1.306301	0.8630151	0.84411615	1.1732447	0.980589	1.2163931	0.9263783
Oxidative decarboxylase	2.5246766	1.7744201	2.30558575	2.5618808	0.76450557	0.9600416	0.2709859	0.32538846	0.38656846	0.29971174	0.46938287	0.33055294
Thymosin beta-10	0.6470189	0.83872	0.814163	0.7281398	0.911215	1.1332175	1.4515688	1.1913668	1.5923477	1.013668	1.4261331	1.5367264
Phase-1 RCT-72	1.2585406	0.850846	1.0079315	0.89683604	0.830122	0.9348046	0.7643948	1.2055798	0.77133745	0.860286	0.82491785	0.69764805
Phase-1 RCT-109	0.7022035	0.83007765	0.79354674	1.3026286	0.97892855	1.4946824	0.8285434	0.6137704	1.174768	1.6357205	1.4407775	1.209529
Phase-1 RCT-76	0.8970142	0.9975469	0.8823545	0.79921514	1.3335591	0.9015953	0.5717325	0.614197	0.8009479	0.9172152	0.6172856	0.74842376
Vacuole membrane protein 1	0.8510504	1.0476319	0.9771488	0.8489645	0.8628534	0.7663128	1.361805	1.272717	1.12885	1.2476002	1.1578837	1.5845529

Table 29

Phase-1 RCT-158	1.4243473	0.93760216	0.9774871	0.98972094	1.0187195	1.0599758	0.9222647	0.7080927	0.59052974	0.7693739	0.8204086	0.8161616	1.0475478
Phase-1 RCT-113	1.1157209	0.96395636	0.99741054	0.95461124	1.3278039	1.5772876	0.73131317	0.7575864	0.7537412	1.2226956	1.1846575	1.3205221	1.0977066
Endogenous retroviral sequences, 5' and 3'	0.7726386	0.84284475	0.9285884	0.7087065	0.7301481	0.8492282	1.0495344	1.1391475	0.9159402	1.0911741	0.6897357	0.5028535	0.7693273
LTR													
Beta-actin	0.88845854	1.1876881	0.9515724	0.9313752	1.0390488	1.1663126	0.7174187	0.48466464	0.59851686	0.64901036	0.9104236	0.49933836	0.67264247
Phase-1 RCT-65	1.5055437	1.0402446	1.70887	1.100142	0.93437634	0.8512572	0.7017984	0.8908603	0.7274052	0.8288731	0.89462864	0.79592913	1.0188665
MHC class I antigen RT1.A1(0) alpha-chain	1.5445515	0.97621893	1.3420428	1.4158693	0.9633986	0.7088644	0.34139818	0.41604963	0.47608143	0.47365347	0.6070323	0.4794017	0.4877789
Box (alpha)	1.794076	1.3011365	1.5375423	1.6359781	1.2837338	1.4070051	0.70301443	0.8891272	0.7566884	0.8421159	0.804095	0.7174688	0.89328593
Cytochrome reductase	1.2161262	0.8222543	1.178946	1.2875112	1.0848179	1.188021	0.6992121	0.955411	0.68254983	0.78204834	0.73166977	0.4947433	0.7166372
Beta-actin, sequence 2	0.71572874	1.2500538	1.148616	1.075798	1.2712597	0.9369591	1.811637	0.8598465	1.5870436	1.3321087	1.674666	1.1008917	1.2246327
Interferon-10	1.5236165	0.8128061	0.9839303	1.0639858	1.0678235	1.0854806	1.0686503	0.72397643	0.81282925	0.704079	0.7348007	0.57088758	0.6385567
Phase-1 RCT-191	1.8358603	1.1009502	1.1807156	0.8712906	0.81237626	0.730506	0.4825102	0.42072088	0.50937134	0.6588714	0.77698237	0.6228851	1.0681762
Apoptosis-regulating basic protein	0.73978823	1.217682	0.95331327	0.8891978	1.0423105	0.90370214	0.8713304	0.9141568	1.8581547	0.77817884	0.9635043	1.0323245	1.0977757
Glutathione peroxidase	0.7701368	1.218955	1.6729554	1.5435367	1.140821	0.90370214	0.90370214	1.2836469	2.499732	1.3857008	1.425291	1.7855625	1.0977757
Phase-1 RCT-67	1.8536538	1.1352313	1.6729554	1.5435367	1.140821	0.90370214	0.90370214	1.2836469	2.499732	1.3857008	1.425291	1.7855625	1.0977757
Tryptophan hydroxylase	0.8785093	1.0174567	0.90891457	0.99230486	0.91198325	1.1378278	1.3758339	0.8633307	0.92877923	0.977093	1.0122156	1.0824647	0.85009923
Sulfotransferase K2	0.9395114	1.1224775	1.0801557	1.0324702	0.83339816	0.85578308	0.8633307	0.8633307	0.92877923	0.977093	1.0122156	1.0824647	0.85009923
Cellularin B9	1.0541232	0.9446783	0.89239564	1.025285	0.8192334	0.867235	0.8518517	0.8518517	0.8518517	0.8518517	0.8518517	0.8518517	0.8518517
Phase-1 RCT-123	1.2285187	1.0864555	0.89239564	1.025285	0.8192334	0.867235	0.8518517	0.8518517	0.8518517	0.8518517	0.8518517	0.8518517	0.8518517
Phase-1 RCT-46	1.2663022	1.075475	1.1654053	1.2109556	0.92511433	0.867235	0.8518517	0.8518517	0.8518517	0.8518517	0.8518517	0.8518517	0.8518517
Aquaporin-3 (AQP3)	1.3493724	1.0510804	1.0929227	1.1308639	0.92511433	0.867235	0.8518517	0.8518517	0.8518517	0.8518517	0.8518517	0.8518517	0.8518517
Stearyl-CoA desaturase, liver	2.494389	0.8967118	0.7383166	1.018992	0.13488028	0.37373495	0.39196312	0.28683527	0.17854355	0.128946	0.35426414	0.23471653	1.5176382
Phase-1 RCT-64	1.3346026	1.1231117	1.2208461	1.1299412	0.7512596	0.9118815	0.55015826	0.66300565	0.6834321	0.56207657	0.6374831	0.706395	0.98177385
(1) Gene expression data for 24 hour													
timepoint are presented as mean ratio of													
treatment/control for all 24 hour predictive													
genes (Table 5).													
(2) Compound and dose abbreviations as in													
Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for													
compound-dose group at 72 h: yes=not,													
necrosis observed; yes=both, necrosis with													
inflammation observed; no, no histopathology													
observed													
(5) Predictive gene (as in Table 5 and as													
included in Table 28)													

Table 29

Table 29. Expression Data for 24 Hour															
Timepoint (1)	EST 0.4	EST 0.4	ETH 2500	ETH 2500	ETH 2500	ETH 2500	ETH 2500	ETH 2500	ETH 2500	ETH 2500	ETH 2500	ETH 2500	ETH 2500	ETH 2500	ETH 2500
Compound-Dose (2)	1435	1435	1435	1435	1435	1435	1435	1435	1435	1435	1435	1435	1435	1435	1435
Animal Number (3)	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	1.2651716	1.0269312	0.9200116	0.9307378	0.9079239	1.0579531	1.0266209	0.7731414	0.8592206	0.9292473	0.81985176	0.81985176	0.81985176	0.81985176	0.81985176
Gamma-actin, cytoplasmic	0.71977036	0.5864749	1.0178725	1.1509597	1.0647606	1.1025668	1.0139755	1.0128912	0.9653478	0.8900589	0.9653431	0.9653431	0.9653431	0.9653431	0.9653431
Phase-1 RCT-145	0.6969673	0.8774948	1.9427808	1.4590882	1.2693968	0.92641175	1.1269455	0.9038785	1.2027047	1.3163323	0.9551437	0.9551437	0.9551437	0.9551437	0.9551437
Gadd45	1.0395666	1.0391445	0.7644214	0.8734335	0.95708394	0.94012356	0.9608974	1.0188674	1.0188674	0.93402636	1.0347172	1.0347172	1.0347172	1.0347172	1.0347172
Phase-1 RCT-78	0.6964714	0.6039675	1.0543191	1.117825	1.181271	0.90253637	0.9621438	0.9393658	0.896581	1.0114682	0.9224855	0.9224855	0.9224855	0.9224855	0.9224855
Fas antigen	0.47673736	0.6007741	1.3143358	1.6568985	1.2833334	1.065572	1.1616623	0.95999994	1.1279111	1.0833263	0.9224855	0.9224855	0.9224855	0.9224855	0.9224855
Macrophage inflammatory protein-2 alpha	0.74665916	0.76840345	1.2803877	1.3998353	1.2393825	1.065583	0.9676085	1.047782	1.0615511	1.0439044	0.9224855	0.9224855	0.9224855	0.9224855	0.9224855
Integrin beta1	0.9476345	0.8913918	1.1062521	1.2135482	1.0903504	0.9343222	0.9862666	1.0294182	1.047782	1.047782	0.9224855	0.9224855	0.9224855	0.9224855	0.9224855
Aspartate aminotransferase, mitochondrial	1.1385665	1.1017342	1.2012503	1.3128774	1.1574354	1.1519563	0.9242785	0.88195164	0.9462249	0.9743404	0.9224855	0.9224855	0.9224855	0.9224855	0.9224855
Casheir-alpha	0.93280375	0.99071671	1.1233156	1.062861	0.9151848	0.9634444	1.099536	0.9242785	0.88195164	0.9462249	0.9743404	0.9743404	0.9743404	0.9743404	0.9743404
Malic enzyme	0.6181837	0.7648002	0.4385994	0.28650436	0.3131482	1.0845932	1.0133418	0.94763744	0.9743404	0.9743404	0.9743404	0.9743404	0.9743404	0.9743404	0.9743404
Phase-1 RCT-30	0.62763964	0.77927835	1.4274297	1.4958138	1.3487866	1.0327896	0.9303068	1.0033347	1.1512043	1.055883	0.93464478	0.93464478	0.93464478	0.93464478	0.93464478
Hepatocyte growth factor receptor	1.0872375	1.0074514	1.2043198	1.2669639	1.3002908	0.92210356	0.8605584	0.838576	0.9363286	0.91680953	0.83262804	0.83262804	0.83262804	0.83262804	0.83262804
MAP kinase kinase	1.5991073	1.4771343	0.9520389	0.62724584	0.4882651	1.1471767	1.166545	1.20288	1.484893	1.2017246	1.4236727	1.4236727	1.4236727	1.4236727	1.4236727
Sodium/glucose cotransporter 1	0.8216316	1.6167016	0.90573834	0.7865025	0.71845245	1.3082288	0.6330937	0.77874565	1.4208946	2.3644434	1.0288854	1.0288854	1.0288854	1.0288854	1.0288854
Phase-1 RCT-27	0.5725276	0.7050141	1.0673821	1.1265931	1.0800888	1.0167008	0.98068978	0.89195516	0.9691457	0.9584417	0.82694765	0.82694765	0.82694765	0.82694765	0.82694765
Phase-1 RCT-192	1.3781735	1.5242581	1.0709258	1.0240375	1.0184354	1.1065124	0.9881312	1.0062851	1.3071494	1.248763	1.1877630	1.1877630	1.1877630	1.1877630	1.1877630
Phase-1 RCT-268	1.3261905	1.5674889	0.78341186	0.8188883	0.79542166	0.92475617	1.2165932	1.1668884	1.4516313	1.2300769	1.427265	1.427265	1.427265	1.427265	1.427265
Phase-1 RCT-37	0.9023704	0.99416376	0.9250751	0.9046563	0.8984241	1.2269347	1.1488819	1.1280755	1.185578	1.1031748	0.8476784	0.8476784	0.8476784	0.8476784	0.8476784
Organic carbon transporter 3	0.6103713	0.5946059	1.0120239	1.003652	1.037116	1.0330167	0.8688968	1.1240776	1.231008	1.104889	0.8458484	0.8458484	0.8458484	0.8458484	0.8458484
60S ribosomal protein L6	0.9445764	1.112401	1.117767	1.0195834	1.0304277	1.4700705	1.4022588	1.4838413	1.3888477	1.378988	1.010515	1.010515	1.010515	1.010515	1.010515
Zinc finger protein	0.5098187	0.54192674	0.90353944	0.87448623	0.9276232	0.9844617	0.9194002	0.98740757	0.8420267	0.8916807	0.842765	0.842765	0.842765	0.842765	0.842765
Calgranulin B2	1.070552	0.9519377	0.88747615	0.9997168	0.85042266	0.9502866	0.9286121	0.8958984	0.9420267	0.8916807	0.842765	0.842765	0.842765	0.842765	0.842765
Phase-1 RCT-92	1.5818233	1.3493189	0.7053187	0.7300615	0.58827865	1.1623333	0.9738474	0.8905628	0.9738474	0.9699786	1.0850847	1.0850847	1.0850847	1.0850847	1.0850847
Phase-1 RCT-115	0.64748014	0.71450654	1.0325666	1.2133467	1.2922642	0.9334973	0.9516489	0.9673781	1.1284927	0.9699786	1.0850847	1.0850847	1.0850847	1.0850847	1.0850847
Marlin FG	0.95486534	0.8332527	0.88356656	0.73951649	0.8347963	1.0169727	1.0471681	1.0407778	1.0547261	0.9644452	0.9644452	0.9644452	0.9644452	0.9644452	0.9644452
Phase-1 RCT-79	0.7653642	0.673068	1.1515945	1.1372868	0.9802804	0.81442016	0.97627884	0.84907794	0.9856949	0.94811726	0.8080419	0.8080419	0.8080419	0.8080419	0.8080419
Sorbitol dehydrogenase	0.6107471	0.5950598	0.9387482	0.7229533	0.9094716	0.8216071	0.8192671	0.9254038	0.84036728	0.8535492	1.0581837	1.0581837	1.0581837	1.0581837	1.0581837
Phase-1 RCT-24	0.9018442	0.8116842	1.1094727	1.2242498	1.1888718	1.0389458	1.0399427	0.80989254	1.0922491	0.980083	1.0257237	1.0257237	1.0257237	1.0257237	1.0257237
ILK-1	1.1850663	1.201312	0.89073815	0.8905147	0.90451837	1.065813	1.030179	1.4024352	1.2551088	1.1639271	1.2484771	1.2484771	1.2484771	1.2484771	1.2484771
Calgranulin B1	1.3828574	1.561409	0.85856134	0.6871398	0.90451837	1.065813	1.030179	1.4024352	1.2551088	1.1639271	1.2484771	1.2484771	1.2484771	1.2484771	1.2484771
Elongation factor-1 alpha	1.7075694	1.367901	0.5514012	0.48610476	0.531152	1.765603	1.1223489	1.2800771	0.85478375	0.87657845	0.91381776	0.91381776	0.91381776	0.91381776	0.91381776
L-glutamate-gamma-lactone oxidase	1.2500211	1.2096606	0.3818125	0.81768985	0.817887	1.7565603	0.85478375	0.87657845	0.91381776	0.91381776	0.91381776	0.91381776	0.91381776	0.91381776	0.91381776
Phase-1 RCT-33	0.84506855	0.5996693	1.3168466	1.1512702	1.3537231	0.9039223	0.85478375	0.87657845	0.91381776	0.91381776	0.91381776	0.91381776	0.91381776	0.91381776	0.91381776
C-Jun	1.2612715	1.195481	0.81768985	0.8250134	0.876694367	1.1763881	1.0080779	1.0387844	0.9798933	0.9622808	0.9945375	0.9945375	0.9945375	0.9945375	0.9945375
Phase-1 RCT-233	0.8156356	0.8033255	0.90672717	0.94055295	0.91783553	1.1024232	0.8833934	0.9798933	0.9622808	0.9945375	0.9945375	0.9945375	0.9945375	0.9945375	0.9945375
Phase-1 RCT-242	0.7083569	0.70639493	1.176859	1.3089999	1.1310357	0.9102277	0.95364593	0.8815298	0.8274908	1.0564018	1.0679021	1.0679021	1.0679021	1.0679021	1.0679021
Phase-1 RCT-181	1.3094567	1.310389	0.9588813	0.90781875	0.82744337	1.2502951	1.041412	1.054188	0.9798933	0.9622808	0.9945375	0.9945375	0.9945375	0.9945375	0.9945375
Phase-1 RCT-185	1.392018	1.1783406	0.7772944	0.7243637	0.5548018	1.0505164	1.2502951	1.041412	0.9798933	0.9622808	0.9945375	0.9945375	0.9945375	0.9945375	0.9945375
Phase-1 RCT-179	1.0424376	1.1528999	0.83107287	0.8527131	0.871132	0.974558	1.154854	0.9850954	0.8893955	0.8536358	0.8841827	0.8841827	0.8841827	0.8841827	0.8841827
Phase-1 RCT-144	0.97802384	1.0122673	1.081442	1.1252271	1.1682708	0.8925341	0.91010506	0.8850954	0.8725718	0.7947372	1.0274842	1.0274842	1.0274842	1.0274842	1.0274842
ILK-2	1.5759537	1.237178	1.0275424	0.82123053	0.8844844	0.89156497	0.88538756	0.78779864	0.8663164	0.9047852	0.929286	0.929286	0.929286	0.929286	0.929286
Phase-1 RCT-225	1.1455531	0.9038883	0.80976635	0.1638368	0.8545166	0.8345152	0.80509144	0.8999177	0.8663164	0.9047852	0.929286	0.929286	0.929286	0.929286	0.929286
60S ribosomal protein L8 (allamata clone 1)	0.9289376	1.1132572	0.79489744	0.67947423	0.7867172	1.3107276	1.1808417	1.3384054	1.3609494	1.2922487	1.1320393	1.1320393	1.1320393	1.1320393	1.1320393
Beta-tubulin, class I	0.7650879	0.61294305	0.92896859	0.928104	0.8484149	1.2590309	0.7138443	0.940439	0.9853076	1.0339227	1.051316	1.051316	1.051316	1.051316	1.051316
Multidrug resistant protein-2	0.8605036	1.0269518	1.3461186	1.5954724	1.5065088	0.91273177	0.97933114	1.0513372	1.141677	1.0691438	0.9155075	0.9155075	0.9155075	0.9155075	0.9155075

Phase-1 RCT-49	0.78126558	1.0211347	1.0137843	1.0463966	1.1178201	1.0020263	0.9867035	1.0544252	0.9888863	1.0253555	0.8995045	1.0603086	0.99146307
Calgranulin B3	0.87466824	0.9213482	1.0766559	1.2222823	1.1577325	0.9597511	0.9625435	0.9526224	0.9487648	1.0423627	0.92884787	0.94012157	0.840712157
NADP-dependent isocitrate dehydrogenase, cytosolic	1.31425588	1.5176132	0.9658533	0.8627617	0.7035437	1.2423005	1.1574476	1.0711395	1.2732242	1.2625485	1.2747566	1.081	1.11424
Oxidant binding protein 1	0.73917925	0.7027759	1.1804876	1.0594472	1.0813949	0.9428755	0.9990244	0.9895655	0.9921456	0.91179276	0.9731556	0.7603047	0.861349
Sodium/bile acid cotransporter	1.388821	1.2975508	0.5372668	0.5372697	0.5372697	0.5372697	0.5372697	0.5372697	0.5372697	0.5372697	0.5372697	0.5372697	0.5372697
Phase-1 RCT-174	1.3128368	1.0149492	0.7774332	0.6813551	0.7361806	1.0610938	0.9457755	0.9457755	0.9457755	0.9457755	0.9457755	0.9457755	0.9457755
Phase-1 RCT-177	1.2381338	1.0581189	0.84572617	0.84572617	0.84572617	0.84572617	0.84572617	0.84572617	0.84572617	0.84572617	0.84572617	0.84572617	0.84572617
Inositol polyphosphate multikinase (Ipmk4)	1.7606599	2.1670918	0.5582202	0.5582202	0.5582202	0.5582202	0.5582202	0.5582202	0.5582202	0.5582202	0.5582202	0.5582202	0.5582202
Phase-1 RCT-256	1.674851	1.1855721	0.9666137	0.75371087	0.93684256	1.2787114	0.8220197	0.984047	0.9187123	1.0223114	1.0767784	0.7495959	1.1715676
Equilibrative nucleoside/nucleoside-sensitive nucleoside transporter	1.1273277	1.129779	0.83838746	0.9218638	0.83318686	0.73128164	1.085001	0.9602932	0.72290426	1.0579885	1.0775343	1.1715676	
CDK102	1.1672675	1.3560663	1.0155706	0.9587846	0.8793598	1.2493989	1.0564898	1.1475538	1.2003338	1.085087	1.1426353	0.9537846	1.0277531
Phase-1 RCT-209	1.056315	1.0717789	0.9509394	0.9283357	0.8586866	1.0855966	1.0796821	1.0533141	1.1501275	1.0281774	0.9568814	1.1741433	1.1638595
NADH-cytochrome b5 reductase	1.2054217	1.3161631	0.9571685	0.8716878	1.312785	1.312785	1.312785	1.312785	1.312785	1.312785	1.312785	1.312785	1.312785
Dynamin-1 (D100)	1.2956442	1.2930012	1.052875	0.9121175	0.8014669	0.9141439	0.9881578	1.0574175	1.0129246	0.9600783	0.92894765	0.925337	1.040784
Serum albumin marker protein-30	1.8732315	2.0919435	0.8742879	0.7360416	0.765304	0.9142727	0.76828025	1.2741287	1.0138576	0.9375334	1.16797433	1.3462277	1.1890784
Phase-1 RCT-89	1.3531849	1.2975395	0.8995558	0.84489006	0.86187606	1.0319623	0.93345213	0.8320576	1.0744749	0.9375334	1.16797433	1.3462277	1.1890784
Carnitine palmitoyl-CoA transferase	0.493325	0.4959735	1.3445903	1.6297674	1.433383	0.8893293	0.9702359	0.8320576	1.0744749	0.9375334	1.16797433	1.3462277	1.1890784
Alpha-2-microglobulin	1.7701721	1.6105427	0.7403948	0.48049827	0.485786	1.0024838	1.0082632	1.132832	0.9541856	0.87374784	1.042081	0.78032035	0.8092943
Apolipoprotein CIII	1.1653746	1.4715965	1.057229	1.069896	0.8830666	1.0024838	1.0082632	1.132832	0.9541856	0.87374784	1.042081	0.78032035	0.8092943
Calreticulin L sequence 2	1.0931046	1.0765735	1.3322206	1.6164218	2.0392177	1.0584439	1.4703878	1.2765693	1.3266711	0.9870702	0.9379546	1.217109	1.275355
Phase-1 RCT-141	1.208928	1.4253144	0.9458045	0.7315216	0.7204099	0.9664605	0.8580848	0.8766433	1.0400143	1.0274582	0.9114033	1.0610157	0.8207943
Endothelin-1	0.6570577	0.5759505	1.4137945	1.8742471	1.2481735	0.77687734	0.9007087	0.9078552	1.3266711	0.9870702	0.9379546	1.217109	1.275355
Phase-1 RCT-282	0.7183336	0.83907205	1.0832953	1.2125518	1.12185	0.9548643	0.95592386	0.9058686	1.0400143	1.0274582	0.9114033	1.0610157	0.8207943
Phase-1 RCT-140	1.263359	1.3036438	1.054655	1.1416105	1.135984	0.9950322	1.0262871	1.0526645	1.0337983	1.0684835	0.9742302	0.9728809	0.8649706
Cyclin D1	1.5300508	1.1239287	1.290452	1.366025	1.1268846	1.1338098	0.90520656	0.90931773	0.8915149	0.87289315	0.90380559	1.2901764	0.82495064
Phase-1 RCT-287	1.298508	1.2078395	0.94755924	0.9243863	0.94351584	1.0779002	1.3037781	1.0086078	1.2204964	1.5480926	1.2041882	1.3605444	1.1016078
Phase-1 RCT-281	0.95353216	0.109147	0.87664753	0.8943317	1.0575364	0.8704467	0.8281912	0.77741436	0.78511085	0.75552744	1.0414336	0.95441084	0.82381004
Retinol-binding protein (RBP)	1.8771479	2.0170832	0.8170654	0.8559224	0.8928971	1.3389442	1.3350712	1.5971354	1.2655182	1.2638384	1.4503713	0.8565593	0.9554011
ATP-stimulated glucocorticoid-receptor translocation promoter (GyA)	1.3703811	1.1299026	0.9534824	0.8900482	1.006141	0.7781165	0.8689433	1.2103577	0.955687	1.0440857	1.3739076	1.1612861	1.3007833
Phase-1 RCT-60	1.3744432	1.4094509	1.0971301	1.1562821	1.1889036	1.0820953	1.0470113	1.0697104	0.9523712	0.98903406	0.949691	0.8870905	0.82173485
Pyruvate kinase, muscle	0.77053864	0.8179476	0.8675874	0.881047	1.1860474	0.9951166	0.891818	0.846587	0.8522428	0.8364939	0.82171616	0.8897884	0.8429115
PAR interacting protein	0.8488239	1.04751	0.705303	1.0839709	1.4809511	0.9343077	0.9772186	0.94370103	0.8984325	0.8676926	0.92770153	0.9102875	0.8155884
Nucleoside diphosphate kinase beta isoform	1.4120921	1.464012	1.0320797	1.2023184	0.89782683	1.1134032	1.0282487	1.0950992	1.5023903	1.2590969	1.1018003	0.8557461	0.7595534
Gadd153	0.839857	0.8773079	1.34298	1.5339345	1.2632084	0.74601597	0.8571322	0.8003311	0.8743864	0.84065844	0.8469438	1.0192113	1.1481435
Insulin-like growth factor binding protein 1	1.0389254	0.9893663	1.200668	1.200668	1.177156	1.145748	0.91915865	0.78057	0.9198811	1.0165784	0.95942544	1.0823399	1.1700188
c-H-ras	0.79964024	0.81043625	1.1218467	1.347179	1.26374	0.7876978	1.3341768	1.1276052	1.260784	1.189749	1.3012285	1.0282845	1.0176795
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	1.350799	1.2607394	0.8895046	0.85327613	0.7688211	0.7555214	1.3843974	1.2056019	0.7605974	0.7477419	1.3029667	1.1629593	1.325366
Phase-1 RCT-52	1.2440588	1.2773	0.97670954	0.8752521	0.844945	1.232956	1.0072919	0.86254424	0.847856	1.2682145	1.0209745	0.9572556	0.81058087
Alpha 1 - inhibitor III	1.4962704	1.1434869	0.8339713	0.513244	0.43941742	0.950283	1.034861	1.1419844	0.80854726	0.84084535	1.0951537	0.6020309	0.83453345
Serol carrier protein 2	0.96603386	1.1917185	0.8240564	0.8257532	0.6942389	0.983834	1.124474	0.9073666	1.33027	1.1559823	1.4688947	0.81073195	0.825104
Organic anion transporter 3	0.7497662	0.78840345	1.0547528	1.1776743	1.0282512	1.1180246	0.94928193	0.9730621	0.9470705	1.0033443	1.1841656	1.2085371	
Calgranulin B4	1.057008	0.98037894	0.8659887	0.6730475	0.6535299	1.1372943	1.0185418	0.852805	0.83304944	1.0174085	1.0651077	1.003662	0.89294684
Phase-1 RCT-182	1.498539	1.2597803	0.86500937	0.8300475	0.92152095	1.0144898	1.1268818	1.1011392	1.1339732	0.9596329	0.94750834	0.86057645	0.8578595
Calgranulin B6	1.045202	0.784738	0.86857564	0.8133249	0.8694555	1.3843132	1.1406682	1.1370084	1.6357695	1.3696157	1.0478403	0.6621312	0.8554995
Adenine dehydrogenase, microsomal	1.3841368	1.2745565	0.957112	1.030808	0.979402	1.008818	1.040859	1.1559392	1.1282974	1.1657485	1.7921077	0.7770435	0.766881
Phase-1 RCT-128	1.4110892	1.3695928	0.9785938	1.0117476	0.87871386	1.1931058	1.2814538	1.3689001	1.138258	1.0752748	1.267445	0.9570573	1.007732
Phase-1 RCT-102	1.0533947	1.0439922	1.0213945	0.803478	0.7766576	0.96949583	0.9255153	0.9590277	0.77800083	0.7410388	1.0218959	1.1041668	0.63042563
Proteinase, sequence 2	1.5322143	1.6020738	0.9238532	0.6910414	0.6744676	1.3216339	1.2767691	1.2767691	0.97684083	1.9085744	1.9085744	0.9841279	1.2042825
Apollipoprotein AII	0.94656554	0.8091687	0.8766759	0.713841	0.88341254	1.3408428	0.86225255	0.8741455	1.0101284	1.144882	2.2184378	1.156611	1.2206213
Phase-1 RCT-10	1.1802470	1.5389038	0.8836972	0.7925278	0.83368134	1.1565168	1.2284808	1.28126574	1.28126574	1.155943	1.5403995	1.1963961	1.172179
Phase-1 RCT-48	1.0438908	1.3652895	0.81603	0.9107115	0.9289795	0.9271588	0.9804442	1.1088219	0.8067153	0.8595532	1.2042587	1.1745371	0.96225363
Phase-1 RCT-8	1.3585886	1.000781	0.9384189	0.5895564	0.68038744	1.163162	1.135126	1.3489852	0.8357375	1.1144258	1.5918583	0.88234904	1.2218854

Table 29

Phase-1 RCT-168	1.4189221	1.3283438	0.8053057	0.9067368	1.1216338	1.1330884	1.0570587	1.0595481	0.9835044	0.9285603	0.8216755	0.89795345
Phase-1 RCT-88	1.5352123	1.3457224	0.85235023	0.89523616	0.73248273	1.0434328	0.9984984	1.18451	1.0842041	1.0426812	1.0712706	1.1189829
Beta-alanine synthase	1.5802604	1.5750213	0.9157801	1.0559396	0.8271738	1.3462027	1.2523221	1.4408729	1.4117267	1.3848153	1.5656568	1.565179
Phase-1 RCT-286	1.1360638	1.2712151	1.6672184	1.0480498	1.07849443	1.863238	0.9543105	1.0440684	1.4472808	1.451357	1.3798534	1.0845495
Carbonic anhydrase III	2.2234397	1.1782251	0.7127856	0.24289669	0.388894	1.086523	1.3210389	0.46283108	1.3210389	0.70198873	1.3327147	1.3822425
Phase-1 RCT-291	1.0565667	1.189298	0.88509405	0.8402184	0.9500331	1.1910833	1.0468112	1.0223352	1.0851074	1.0845692	1.0854456	0.7372149
Carbonic anhydrase III, sequence 2	1.6506076	1.3405802	0.82857663	0.7150904	0.56042468	1.5017109	1.1568214	1.4256941	1.1920322	1.0662857	1.7464083	0.8769084
Phase-1 RCT-271	0.92840525	0.61860335	0.9098022	0.7964562	0.7079361	1.3688963	1.0620906	1.0118998	0.9160094	0.82699877	0.89537024	0.6070189
HMG-CoA synthase, mitochondrial	1.2191141	1.117048	0.83051337	0.84754534	0.82984493	1.0899884	0.83202946	1.187152	0.843712	0.845733	1.1828595	0.7005712
Phase-1 RCT-189	1.3470984	1.4619288	0.97941184	0.78031826	1.0318937	1.2393625	1.358372	1.104151	0.9903625	0.8524493	1.3046457	0.9279708
Phase-1 RCT-40	1.2239301	1.1034546	0.88714256	0.7425576	0.79136455	0.8231138	1.1422208	1.3273424	1.0679428	1.1622511	1.6212785	1.1318979
Uridine protein 2 precursor	1.5330365	1.5114492	0.8120008	0.74076655	0.6949401	0.8332637	1.254381	1.0858027	1.0897853	0.859296	2.188757	1.263068
Paraoxonase 1	1.450182	1.7102482	0.7865574	0.6305974	0.65256586	1.0119769	1.0515544	1.012017	0.9895652	0.8427155	1.2265178	1.019894
Liver fatty acid binding protein	1.5095846	1.708344	0.9107334	0.68337445	0.635787	1.171854	0.81214744	1.0035208	1.1018152	1.2908162	1.350813	1.688008
Prethelin-1	1.9529056	1.1621615	0.8143212	0.55630314	0.43437248	1.1635303	1.1584702	1.2575405	0.87192947	0.9712765	1.1415625	0.8207988
Phase-1 RCT-38	1.3405435	1.235193	0.79803494	0.598166	0.7196273	1.233028	0.87303233	0.845874	0.9906432	1.1895963	1.0762242	0.7602426
Transferrin	1.3284352	1.6158692	0.67402405	0.44659008	0.4162147	1.0597636	0.8908704	1.0848751	0.7772953	0.84487873	1.537084	1.083985
Hepatic lipase	1.2149947	1.2364718	0.78572666	0.7671849	0.57372	1.1703391	0.5905008	0.6695776	1.0011929	0.8888395	0.98405058	0.90395707
Cytochrome P450 11A1	0.77618004	0.7022573	0.9716611	0.9833385	0.89795985	1.0157073	0.33668383	0.98337704	1.0011929	0.8888395	0.98405058	0.90395707
Phase-1 RCT-175	1.0978908	1.2400107	0.89380985	0.81697895	0.77009785	1.1808162	1.1762234	1.3162769	1.4989492	1.168386	1.4097598	1.1240064
Phase-1 RCT-117	1.1984391	1.2757537	0.8608815	1.0947771	0.8603635	1.0330738	0.8878304	1.1961775	1.216433	1.3383827	0.98564884	1.5715942
Melanoma-associated antigen ME491	1.5378893	1.7540562	0.8095474	0.7889221	0.552071	1.2764891	1.0954912	1.2352814	0.8742013	0.8393906	0.8570356	1.0776876
Phase-1 RCT-137	1.0498053	1.105317	0.797762	1.2323722	1.1641988	0.89261	1.140764	1.2352814	0.8742013	0.8393906	0.8570356	1.0776876
Phase-1 RCT-12	0.7788463	0.71183056	0.9230986	0.8333209	1.0718265	0.905771	0.8567398	0.9113789	0.8819015	0.8992224	0.92847085	0.9734523
Phase-1 RCT-152	1.32434	1.3335519	0.9339284	0.93704885	0.93861304	0.988084	1.0349246	1.0153863	1.2409565	1.0663783	1.0407035	0.93618627
14-3-3 zeta	0.6036396	0.6063228	1.238708	1.493327	1.1589088	0.976403	0.8817888	1.0867167	0.9546699	0.97621085	1.2081018	1.2623328
Cytochrome P450 2C23	0.9776977	1.951898	0.9154288	0.7683787	0.70093878	1.0345389	1.028015	0.90023947	1.2461257	0.94782271	1.5247355	1.1919781
Voltage-dependent anion channel 2 (Vdac2)	1.120851	1.188442	0.9686615	0.9391525	0.86066973	1.3871534	1.1788908	1.1931305	1.1257253	1.1406406	1.2459085	1.0586313
Phase-1 RCT-154	0.7409971	0.5378006	1.1342084	1.2516856	1.070859	1.1688327	1.1167088	0.87683755	1.1130904	1.0912505	0.9374479	1.0592324
Superoxide dismutase Mn	1.4262388	1.3460727	1.3083849	1.580414	1.3307705	0.94031525	0.9988761	1.0175234	1.0988761	0.9910877	1.0768795	1.2556886
c-myc	0.53154314	0.5553087	1.3084487	1.6744187	1.4409946	0.8655587	0.86039184	0.9529261	1.0762863	1.0097581	1.0161318	0.93614826
Phase-1 RCT-186	1.2115219	1.1877297	0.7688414	0.6290527	0.6130652	0.77283823	1.3393956	1.0831472	0.96276546	0.80424585	1.108084	1.0321137
Cyclin G	0.7922382	0.8680716	1.3745749	1.6233068	1.283743	0.8119277	0.98474055	0.8805602	0.97021997	0.9849828	0.80670693	1.133725
Calgranulin B5	0.77510138	0.87891437	1.1835597	1.2783668	1.207424	0.9530098	0.8998407	1.0158899	1.0180873	0.9918952	0.9175477	0.8343314
p53	1.0381072	0.7774125	1.2521528	1.2612504	0.9461666	1.0316281	1.0532663	1.0335963	1.0139332	0.89474595	0.9120405	0.9710993
Phase-1 RCT-205	0.97782713	0.95579684	1.199301	1.2521225	1.1805941	1.0316281	1.0532663	1.0335963	1.0139332	0.89474595	0.9120405	0.9710993
Phase-1 RCT-68	1.0049536	1.0097787	0.9201565	0.8898639	0.9390233	0.8555513	1.0038714	1.0417287	1.0134537	0.96987313	1.2212994	1.2813135
Caspase 3	0.58018494	0.58595365	1.1662791	1.3587657	0.7789866	0.99056304	0.9395318	0.9716406	1.0205729	1.0217234	1.0500149	1.850043
Alpha-tubulin	1.1588819	0.85916215	1.174103	1.708527	1.01673	0.9882912	0.69045	0.8010097	0.78625824	0.803584	0.9867037	0.8430847
Ribosomal protein L13A	1.5514863	1.3729982	0.974562	1.1429586	1.109641	1.0137616	0.8941569	1.2243374	1.3325597	1.2555947	1.4471568	1.1706531
IgE binding protein	0.92092806	0.8120038	0.9000774	0.83905524	0.89779808	1.0465435	1.1453816	1.1530308	1.1703304	0.957028	0.97522205	1.1622223
Phase-1 RCT-39	0.9532045	0.96190614	0.97166164	1.2165273	1.182568	0.8688794	0.85888235	1.0253248	0.957028	0.9618945	0.97522205	1.1622223
Collin	1.1509507	1.1028041	0.9378684	0.8456676	0.7412532	1.032263	1.0245838	1.1768026	1.017386	1.0786642	1.1697866	1.024148
Heme oxygenase	0.7707242	0.9808832	1.0463818	0.8595166	0.934662	1.0543134	1.4808718	1.0955084	1.1825075	1.1775445	0.9275899	1.0702342
Phase-1 RCT-241	0.7747208	0.7252211	1.0068971	1.333097	1.2004689	1.0485978	1.1292488	0.9628161	1.0860603	1.048856	0.9333586	0.8744276
Ribosomal protein S9	1.6258468	1.2485844	1.3009809	1.2081466	0.8616395	0.89752173	0.9496523	0.8582842	1.1073796	1.137837	1.5202748	1.0539388
Phase-1 RCT-258	0.7130126	0.74372333	1.0846621	1.2428503	1.1467519	1.0524114	1.0886125	1.077604	1.053211	1.016282	1.0063024	0.88337544
Ammonioacetate lyase	0.8788026	1.5461082	0.7590273	0.5735566	0.5314574	1.384146	1.3494147	1.2397845	1.7201061	1.1644548	1.1223149	1.1616768
Phase-1 RCT-180	0.78551665	0.7782769	0.9105614	0.9333835	0.95090646	1.4803859	1.0721633	0.970887315	1.128116	1.0210711	0.6544365	0.7656755
Nullifying resistant protein-1	0.645567	0.715888	1.2814272	1.465967	1.3232402	1.0387156	1.0215632	0.9612842	1.0127537	1.0274177	0.9631186	1.1458487
Ornithine decarboxylase	0.7772626	0.8756911	1.1004072	1.1450986	0.7088374	1.198538	1.258338	0.9498547	0.9498547	0.98904485	0.94539136	1.0401229
Thymosin beta-10	1.497367	1.2076551	0.84411734	0.87891074	0.7891078	1.0212658	0.9214641	1.0081826	1.0254475	1.0254475	1.5219233	0.9581588
Phase-1 RCT-72	0.7989049	0.94950324	1.0411463	1.1040658	1.0457451	1.0213201	1.0129823	0.8473486	1.046018	1.046018	1.1281772	0.9983308
Phase-1 RCT-109	1.397058	1.268946	0.83821076	0.9637827	0.949526	1.1764701	0.7513387	0.7263406	1.2956557	1.2956557	0.9942705	0.9351791
Phase-1 RCT-76	1.107145	1.0248134	0.7462849	0.778833	1.2114402	1.7847077	1.0715097	0.7243406	0.6772247	0.8958706	1.2092658	0.7857165
Vacuole membrane protein 1	1.903443	1.6023317	0.9877616	0.65767376	0.7147252	0.78137034	1.1906288	1.1012614	0.8142948	0.9522053	1.239048	0.8951622

Table 29

Phase-1 RCT-158	1.0434004	0.97352433	0.9280761	1.0485468	1.1875916	1.0194917	0.989426	0.93544525	1.2861774	1.2165847	0.9258701	1.0496894	0.9505996
Phase-1 RCT-113	1.0829448	1.0110084	0.8298086	0.96244276	1.2233822	0.89318434	0.9957277	1.0380283	0.9297939	0.94119567	0.9663431	0.8838831	0.8107878
Endogenous retroviral sequence, 5' and 3'	0.8756684	0.8849374	0.7412378	0.73811924	0.72655797	0.72291803	0.78644437	1.307152	0.7023762	0.8040537	1.3956914	0.8339272	1.0410370
UTR	0.51587474	0.50655134	1.0311806	1.0654813	1.1502745	1.081881	0.92146426	0.907762	0.71930847	0.76302286	1.2780128	0.81171884	0.8514357
Beta-actin	0.90322584	1.182377	0.9864174	0.8596532	0.96288624	1.0422832	0.9805102	1.0602915	1.0635049	1.1311435	1.0710588	0.98537253	0.8958417
Phase-1 RCT-65	0.41233346	0.4859122	0.8596252	1.1083245	1.3219874	0.9906872	0.9386885	1.0059087	0.9374352	1.0553381	0.9659487	1.0158764	1.002402
MHC class I antigen RT1A10 alpha-chain	0.8251528	0.8541078	1.1723841	1.3018605	1.2257782	0.7397466	0.8250983	0.7300985	0.7533665	0.7800917	0.9297408	0.98023956	0.9894183
Bax (alpha)	0.8377288	0.4667449	1.2765831	1.48294	1.1874046	1.1653575	0.92050556	0.7850811	0.906508	0.8447568	0.8935434	1.0295571	1.0184886
Carbonyl reductase	1.1044931	0.8606997	0.92798037	0.78310645	0.77020057	1.1919233	1.1045319	1.0167222	0.9126183	0.87675323	1.0932562	0.870807	0.76307146
Beta-actin, sequence 2	0.60293245	0.5318666	1.2370563	1.5390557	1.5531251	0.74281365	0.79288447	0.78284688	0.8313957	0.8140281	0.9641201	0.89440955	0.8803787
Interleukin-10	1.2963288	1.3249489	1.079228	1.0668122	1.1078466	1.0070107	0.9413286	0.87294316	0.820135	0.891997	0.9401304	0.9251101	0.8495165
Phase-1 RCT-181	1.0849084	0.9738063	0.70465684	0.77520956	1.194713	0.87028515	0.89517784	0.8686971	0.71387815	0.70880204	0.9830867	0.7374187	0.88094295
Phase-1 RCT-111	1.372824	1.3450072	0.978923	0.9180794	0.862853	1.5778939	0.8222506	0.7098082	1.147064	0.9126832	1.274578	0.8716878	1.3541455
Apoptosis-regulating basic protein	1.470799	1.4859592	0.73963104	0.82807504	0.85833144	0.92616034	0.8891362	1.01074	0.9126832	0.937882	0.93589856	0.7754941	0.7583875
Glutathione peroxidase	1.1246585	1.091172	0.880701	0.70678816	0.85833144	1.0810108	0.9932227	0.87415839	0.97310794	0.9899064	1.1639221	0.90370045	0.9673067
Phase-1 RCT-239	1.1968185	1.3200202	1.0992409	1.14571	1.1065364	1.0810108	0.9932227	0.87415839	0.97310794	0.9899064	1.1639221	0.90370045	0.9673067
Phase-1 RCT-67	0.7721864	0.84274846	0.94210559	0.8831107	0.7105801	0.84716366	1.0247253	1.3480686	1.1651949	0.89547414	1.1124402	1.0718338	1.4240992
Tryptophan hydroxylase	0.66084415	0.7575385	0.9832882	0.90643924	1.0169272	1.0816541	1.3205312	1.3480686	1.1651949	0.89547414	1.1124402	1.0718338	1.4240992
Sulfotransferase K2	0.89684486	1.0935031	0.9570442	0.7748912	0.835995	1.0808536	1.0434014	0.8746762	1.0820425	0.9417607	0.9522582	0.77876765	1.4340999
Phase-1 RCT-123	1.2478033	1.3877528	1.0723982	1.501405	1.057038	1.1204118	1.0252614	0.9459217	0.894195	0.8266801	0.8412846	1.0089153	0.8301562
Calgranulin B9	1.1043575	1.2389179	0.8346349	0.82351805	1.0354167	1.1923729	0.9637168	1.0225168	0.9165625	0.894195	0.8266801	0.8412846	1.0089153
Phase-1 RCT-98	0.95319246	1.1308475	0.9828188	1.0700766	1	1.0814463	1.5064669	1.028086	0.939608	0.930844	0.9314921	1.0421772	1.0661333
Aquaporin-3 (AQP3)	1.3838329	0.4722333	0.4009233	0.26394305	0.19297509	1.8441554	0.12640837	0.054718282	0.05047825	0.046683915	0.26070574	0.30710745	0.0680842
Stearyl-CoA desaturase, liver	0.9440496	1.0353766	0.92882266	0.8850488	0.802448	1.0817747	0.82114893	0.7806588	0.7334428	0.8246445	0.9230268	0.890632	0.7908823
Phase-1 RCT-84													
(1) Gene expression data for 24 hour													
timepoint are presented as mean ratio of													
treatment/control for all 24 hour predictive													
genes (Table 5)													
(2) Compound and dose abbreviations as in													
Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for													
compound-dose group at 72 h: yes-neer,													
necrosis observed; yes-both, necrosis with													
inflammation observed; no, no histopathology													
observed													
(5) Predictive gene (as in Table 5 and as													
included in Table 26)													

Table 23

Table 29. Expression Data for 24 Hour													
Timepoint (1)													
Compound Dose (2)													
Animal Number (3)													
Liver Toxicity Inflammation Classification (4)													
Gene Name (5)	GEN 150	GEN 150	GEN 150	HYD 250	HYD 250	HYD 250	HYD 250	HYD 250	HYD 250	HYD 250	HYD 250	HYD 250	HYD 250
	234	235	236	1224	1224	1224	1224	1224	1224	1224	1224	1224	1224
	no	no	no	no	no	no	no	no	no	no	no	no	no
Gamma-actin, cytoplasmic	1.2702836	0.8988923	0.9363557	0.76687406	0.9302737	0.76939387	0.9302737	0.76939387	0.9302737	0.76939387	0.9302737	0.76939387	0.9302737
Phase-1 RCT-145	0.74720395	0.5508887	0.911815	0.8063122	1.0724469	0.9700469	1.138133	1.2130395	0.96653958	0.89123917	0.9005471	1.0160611	0.8350288
Gba045	1.038977	0.96901944	0.9641115	0.8285122	1.0562828	0.72824	0.96342486	0.9529277	1.0940017	0.96749927	1.1608061	1.1868123	1.0275262
Phase-1 RCT-78	0.93524146	1.0513658	1.2082616	1.0661025	1.0353534	1.034266	1.1473181	0.94087476	1.0182787	1.0216745	1.0182787	1.0216745	1.2506031
Fas antigen	1.1097461	1.234744	1.3086711	0.9073492	0.9926708	1.0573004	0.9370413	1.0408777	1.0164456	1.107393	1.120058	0.9445268	0.9132085
Macrophage inflammatory protein-2 alpha	1.1146048	1.2084594	1.3056411	0.9021005	0.9750805	0.83326395	1.132228	1.1432244	1.1880317	1.1880317	1.1880317	1.1880317	1.2822263
Integrin beta1	1.2213789	1.2302574	1.1724662	0.7889103	1.011055	1.007664	0.9368945	0.8038657	1.132228	1.1432244	1.1880317	1.1880317	1.2822263
Phase-1 RCT-207	0.6860265	0.97748315	0.91219556	0.9298088	1.0920497	1.0183889	1.0580065	0.8038657	1.132228	1.1432244	1.1880317	1.1880317	1.2822263
Aspartate aminotransferase, mitochondrial	0.7311086	0.78348966	0.8085941	0.8672665	1.047019	0.9184645	0.95154	1.0522314	1.0340588	0.9346273	0.8962895	0.74511087	0.8680265
Caselin-alpha	0.872853	0.78047374	0.8300747	1.1954305	1.1423485	1.289071	1.065732	0.980827	1.0181168	1.240526	1.1675053	1.3450575	1.0230411
Malic enzyme	0.89261294	0.82157835	0.65414596	1.0530596	1.3943182	1.4437972	0.980827	1.0181168	1.240526	1.1675053	1.3450575	1.0230411	1.0681462
Phase-1 RCT-30	0.9252576	0.7160699	0.79567537	1.1979625	1.1403476	1.1009331	1.0222437	0.975519	1.3878713	1.138277	0.8668429	1.1786938	1.3805225
Hepatocyte growth factor receptor	1.1057886	1.1066693	1.121545	0.9603044	1.1365467	1.161877	1.0222437	0.975519	1.3878713	1.138277	0.8668429	1.1786938	1.3805225
MAP kinase kinase	0.99899904	0.95295775	1.0449091	0.83180344	0.9895312	0.80762134	0.89348024	0.78744186	1.0302216	0.97406137	1.138277	0.8668429	1.1786938
Sodium/glucose cotransporter 1	1.2869185	1.8204399	0.810739	0.6365764	0.8746255	0.8746255	1.3658345	1.474117	0.8942059	0.6868742	1.1579013	1.6050224	0.59811926
Phase-1 RCT-27	0.92845273	1.8653121	2.0813584	0.41391873	0.47855267	1.0242348	1.1001874	0.8884317	1.0624366	0.8328247	1.0237162	1.2248577	1.1936288
Phase-1 RCT-50	1.0060835	0.93231488	0.8741948	1.2220888	1.046855	1.0242348	1.1001874	0.8884317	1.0624366	0.8328247	1.0237162	1.2248577	1.1936288
Phase-1 RCT-192	1.188597	1.2200744	1.015702	0.9140814	0.8477501	0.9383834	1.0495647	1.1465833	0.81268298	0.91030663	0.91785434	0.9725184	0.9198516
Phase-1 RCT-268	1.1376855	1.7076485	1.4425079	0.9810932	1.0711797	0.98395929	1.0537738	0.8574883	0.74010164	0.9765434	1.0032429	0.8389131	0.813502
Phase-1 RCT-37	1.1978749	0.9125728	0.9988435	1.0883016	0.9278949	1.0052736	1.0052736	1.0052736	1.0052736	1.0052736	1.0052736	1.0052736	1.0052736
Organic cation transporter 3	1.1273324	0.92731154	1.0307205	0.7047612	0.72804326	0.9785532	1.06215	1.023321	1.30770743	1.083375	1.1485548	0.9106543	0.805737
GUS ribosomal protein L6	1.1303384	0.9262274	1.0307205	0.7047612	0.72804326	0.9785532	1.06215	1.023321	1.30770743	1.083375	1.1485548	0.9106543	0.805737
Zinc finger protein	0.9375411	1.285257	1.063573	1.1412085	1.0519023	1.106215	1.023321	1.30770743	1.083375	1.1485548	0.9106543	0.805737	0.7540472
Calgranulin B2	0.850107	0.92490685	0.7513274	1.0307205	1.0519023	1.106215	1.023321	1.30770743	1.083375	1.1485548	0.9106543	0.805737	0.7540472
ID-1	0.7407284	1.0705792	1.256251	1.0307205	1.0519023	1.106215	1.023321	1.30770743	1.083375	1.1485548	0.9106543	0.805737	0.7540472
Phase-1 RCT-42	1.0863873	1.3392879	1.1296887	1.0317081	1.1688539	0.91180503	1.0378847	0.97515875	0.8411602	0.8510371	1.1259905	1.3110737	1.3428153
Phase-1 RCT-115	1.0909951	1.2004038	0.9681954	1.188103	1.0242902	1.1688539	0.97515875	0.8411602	0.8510371	1.1259905	1.3110737	1.3428153	1.3428153
Matrix F/G	1.0079609	0.92834424	1.096076	0.9130963	0.7689677	0.92065203	1.0378847	0.97515875	0.8411602	0.8510371	1.1259905	1.3110737	1.3428153
Matrix F/G (MLH1)	1.2170781	1.0719775	1.0041504	1.0331571	1.8331661	1.3310751	1.1268433	1.0557636	1.0328751	1.02423	0.9879322	1.0438063	1.301462
Phase-1 RCT-79	0.93228734	0.722188	0.8025543	0.95302953	0.8075969	1.0909204	1.0290707	1.3884486	1.0120582	0.9755769	0.9650489	1.037613	1.053281
Phase-1 RCT-24	1.2519358	1.1406515	1.5211089	0.8496248	1.0044183	1.008348	1.0453608	0.7693478	1.1992282	1.4088883	1.1607184	1.0304444	1.0304444
Sorbitol dehydrogenase	0.95762	0.91492784	0.8295584	0.8808658	0.9401599	0.9283467	0.9283467	0.9283467	0.9283467	0.9283467	0.9283467	0.9283467	0.9283467
Calgranulin B1	1.0879658	1.0546843	1.252189	0.84318477	1.0557543	0.7439837	0.98623705	0.7300366	1.0255568	0.9696631	1.22645	1.22645	1.22645
Elongation factor-1 alpha	0.97389925	0.78858325	0.95901406	0.99505547	1.0577543	0.7439837	0.98623705	0.7300366	1.0255568	0.9696631	1.22645	1.22645	1.22645
L-glutathione S-transferase	1.1751765	0.7837893	0.9402119	0.8398933	0.8621366	1.2184277	0.8701803	0.8673543	0.7797558	1.0308313	1.5700697	1.3536562	1.6492744
Phase-1 RCT-33	0.9980491	0.9985985	1.052074	0.8228651	0.88701564	0.8810245	0.84799504	0.8381047	0.7474373	0.78720546	0.94187456	1.0428163	1.0528359
Phase-1 RCT-233	1.0997912	0.7883204	0.8337848	1.0400019	1.1740459	0.96891246	0.928849	1.0334073	0.8712091	0.8498825	0.94187456	1.0428163	1.0528359
Phase-1 RCT-38	1.100166	0.81084694	0.926394	0.96557014	1.087737	1.0955002	0.9205775	0.9878899	0.8712091	0.8498825	0.94187456	1.0428163	1.0528359
Phase-1 RCT-242	1.1977705	0.8528385	0.85960305	1.2178791	1.3522182	1.048416	0.9601321	1.2893465	1.0387895	0.837277	0.9226882	1.409769	1.134998
Phase-1 RCT-181	1.0667897	1.0034891	1.055145	1.1272728	0.94010043	1.0271485	0.97307676	0.9878899	1.0387895	0.837277	0.9226882	1.409769	1.134998
Phase-1 RCT-185	1.0175978	1.0495721	0.83521795	1.020658	0.8490599	0.8638363	0.8638363	0.8638363	0.8638363	0.8638363	0.8638363	0.8638363	0.8638363
Phase-1 RCT-179	1.1157202	1.2735397	1.1303053	0.8666561	0.8561955	0.9834368	1.0480126	0.830107	0.830107	0.830107	0.830107	0.830107	0.830107
Phase-1 RCT-144	0.83904237	0.8317341	0.8745768	0.98610526	1.057332	1.015557	1.0043815	1.0602081	1.0719646	0.96125376	1.211948	1.0542142	0.7009875
Phase-1 RCT-225	1.0166115	0.6802352	0.7139208	0.8672797	0.7946403	0.8123714	0.8123714	0.8123714	0.8123714	0.8123714	0.8123714	0.8123714	0.8123714
Phase-1 RCT-225	0.84428755	1.1305418	0.6778111	1.572599	1.3345952	1.285982	1.036237	0.9387441	1.695688	1.6707828	1.3424867	1.6355484	2.0530102
GUS ribosomal protein L8 (allmate done 1)	1.2115475	0.8855131	1.0822371	0.8178915	0.85122436	0.85122436	0.85122436	0.85122436	0.85122436	0.85122436	0.85122436	0.85122436	0.85122436
Beta-tubulin, class I	1.0591851	0.9518901	0.70406963	0.92587125	1.1258496	1.1900632	1.134988	0.91811407	1.0088047	1.3941981	1.2156824	1.3058863	1.3058863
Multidrug resistant protein-2	1.0382733	1.05017	1.4639835	0.7760969	0.9476298	0.81804066	1.038432	0.8018182	1.058867	1.1992542	1.0019383	0.90280205	0.90280205

Table 29

Phase-1 RCT-49	0.9035108	0.9641152	0.9724265	1.0593439	0.9832869	1.0513809	0.9433959	1.0876163	0.9830245	0.8888272	0.9161264	1.0405135	1.0135181
Calgranulin B3	0.7505626	0.9507743	0.9433039	0.9594674	0.9095155	1.1505667	1.2048004	1.0132308	0.9636097	1.0108198	0.9637236	0.9178016	0.8082931
NADP-dependent isocitrate dehydrogenase, cytosolic	1.1117726	1.2810171	1.0889939	0.9435609	0.9016394	0.9137597	1.0431974	0.9697644	0.9170391	0.9015406	1.0127689	0.90042128	0.80826375
Oxysterol binding protein 1	1.1131318	0.8838877	1.1553645	1.1651145	1.11794	0.9293768	0.9367259	0.9602879	0.95207435	1.0692574	1.1309287	1.0674295	1.2995139
Sodium-binding acid cotransporter	0.8928173	1.2382886	0.6697392	0.8149502	0.839996	0.87054626	0.9859971	0.903415	0.9028974	0.8191688	0.907055	0.907055	1.2995139
Phase-1 RCT-17	0.9815509	1.017731	0.9915848	1.0028915	1.0664668	0.9877176	1.0282135	1.204103	0.9401646	0.83945054	0.8440048	1.0893688	1.0818905
Phase-1 RCT-174	0.9489244	0.7559252	0.7991054	0.8830033	0.9477034	0.84702414	1.0295277	0.9649005	0.83918166	0.8257128	0.78770725	0.8639478	0.80762959
Inositol polyphosphate multikinase (Ipmk4)	1.1302369	1.162897	1.5427473	0.8440406	0.8338263	0.9526332	1.0532463	0.63718724	0.79883363	0.9198785	0.88150688	0.95490134	0.8638475
Phase-1 RCT-256	0.988822	0.9276525	0.87148225	0.93078036	1.0040721	0.86912084	0.86418956	0.9444213	1.0300735	1.105057	1.1980034	1.0152988	1.2191854
Extracellular nitrobenzylthioinosine-sensitive nucleoside transporter	0.8110661	1.0901519	0.8949488	1.0685555	0.8813946	0.95446026	1.0804304	1.1566039	0.90966314	0.905031	0.8184449	0.9190189	0.8099765
CDK102	1.1246629	1.0625552	1.1186308	0.89780986	0.9656882	0.9510749	1.0303564	0.8837826	1.0293167	1.0009392	1.130519	1.2077318	1.2715989
Phase-1 RCT-209	1.0638688	1.1160479	1.0241308	1.1472267	1.161848	1.0739681	1.1012989	0.9626257	0.98501945	1.0915806	0.9657764	1.0555557	0.8417922
NADH-cytochrome b5 reductase	1.0186122	0.75765418	0.8629723	0.87794515	1.0616492	1.0081551	0.978786	1.0029769	0.85131794	0.7859769	0.8570639	1.13816	1.0811009
Dynamin-1 (D100)	1.0978684	1.12728	1.0962949	1.0989808	1.0874774	0.93843025	0.9704611	0.8806246	0.857717	0.9284474	1.0373116	0.94250554	0.89200585
Sensory marker protein-30	1.244287	1.388354	1.2559265	0.8405278	0.93605764	0.7777461	0.99379164	0.71824884	1.323312	1.019383	1.239228	0.9022477	0.886805
Phase-1 RCT-89	0.8022881	1.1569375	1.0837298	0.9269579	0.9887574	0.9804561	1.1150047	0.94103913	0.92907136	1.009242	1.045077	1.0140665	1.050774
Carminine palmitoyl-CoA transferase	1.7831252	1.1160477	1.3088538	1.1647052	1.051635	1.2288768	1.038733	0.9789007	1.0420814	1.269422	1.0101001	1.062919	0.8375202
Alpha-2-microglobulin	0.40555156	2.0323706	1.5287999	0.7876321	1.5166818	0.97238437	1.2350405	0.6228882	0.6327346	0.9388746	0.8689065	1.2681534	0.8034054
Apolipoprotein CIII	0.8069858	0.9984127	1.0208783	1.0283476	1.1433631	1.0366315	1.0110352	1.001873	0.82458305	1.0124271	0.9433934	0.81539539	0.78198636
Cathepsin L, sequence 2	1.3700572	1.3322253	1.4139736	0.91633664	0.71246785	0.80182993	0.9532248	1.0014743	0.8882896	0.8262555	0.902206	0.7011204	0.7471177
Phase-1 RCT-141	0.8700716	1.1371717	1.3994268	1.4447156	1.1709811	1.1046281	1.061023	1.889678	0.989091	1.018874	1.0830874	1.201587	1.2192711
Phase-1 RCT-289	0.952905	1.1778196	1.143118	1.0802372	1.3068935	0.8110633	1.1559443	0.9895972	0.989091	1.018874	1.0830874	1.201587	1.2192711
Endothelin-1	0.94542785	1.0576198	0.9819329	1.207652	1.3162147	0.9906357	1.1039968	1.167162	1.059709	1.287345	1.4308085	1.0276903	1.1850076
Phase-1 RCT-282	0.83314186	0.7304215	0.8049636	1.1563141	0.9872885	1.0746703	0.98393585	1.1328361	1.2774137	0.9201248	0.8502055	1.2989319	1.1850076
Phase-1 RCT-140	0.7439168	1.1154999	0.8676517	0.9108059	0.99093544	0.8933525	1.2996311	0.8439382	1.0066216	1.031068	0.97843395	0.89518449	1.0009311
Cyclin D1	0.187466	0.87342864	0.83278556	1.0076578	1.0693961	0.765207	0.8175439	1.0176628	1.0081065	0.7659047	0.8851854	0.72254395	0.8851854
Phase-1 RCT-287	0.94284107	0.744214	1.030503	0.9891874	0.8717947	1.1617852	0.9457136	0.7361027	0.81774464	0.9893538	0.92360455	0.8259006	0.82827437
Phase-1 RCT-281	1.1416338	1.1594089	1.07954	0.90728703	0.9197585	0.9014114	0.8946107	0.8403937	0.9450719	1.018724	1.058932	0.7954558	0.8714895
Retinol-binding protein (RBP)	1.0860132	1.2037088	1.2416284	0.8710009	1.0405951	0.7634555	1.1195494	0.80551838	0.89284007	0.8407768	0.71810053	0.9542623	0.7491064
ATP-stimulated glucocorticoid-receptor translocation promoter (GyS)	0.8273846	1.4152279	1.4266607	0.8377436	0.8864414	0.8997137	0.9770935	0.7278989	0.82443315	1.0147107	0.86389415	0.8701312	0.8761811
Phase-1 RCT-60	0.7167355	0.8555909	0.9038856	0.94973445	1.0989053	1.0526782	1.0831715	1.048879	1.0200008	0.91850126	0.8855577	0.9921762	0.8928818
Pyruvate kinase, muscle	0.722612	0.79956655	0.808454	0.8671666	0.9092825	1.1075398	0.850882	1.0314786	1.0630391	1.1530824	1.0142734	1.016861	1.0502899
PAR interacting protein	0.7776027	0.8567944	0.9602095	0.8471083	1.0078222	0.8590558	0.97311455	1.0033825	0.9815948	0.93866763	0.984671	0.98730904	0.9482912
Nucleoside diphosphate kinase beta isoform	1.2227043	0.9956796	0.7809755	0.9384845	0.97216185	0.89412806	0.9584973	1.2097892	0.9245014	1.0037469	0.9943929	0.8972064	0.800477
Gadd45	1.1184	0.92700884	0.9995337	1.050868	1.1407677	1.0127433	0.9793034	0.8189498	1.1825038	1.1234419	1.2247586	1.08311	1.0854631
Insulin-like growth factor binding protein 1	1.4345232	2.0921576	1.065083	1.0410452	0.95823544	1.084	1.0188905	0.871158	0.94866794	1.024032	0.91881345	0.7335718	0.81841034
Co-Hras	1.0575941	0.8973905	1.0569155	0.8666343	0.97984375	0.95241804	1.0354452	0.90770775	0.98749345	1.0415013	1.0071933	1.029582	1.1523035
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	0.88164437	1.2897497	1.0028814	1.0628104	0.9025569	0.8921995	1.1037802	1.0191003	0.83698285	0.88770276	0.8866919	0.8734899	0.7181782
Phase-1 RCT-52	1.3557001	0.8826883	0.988794	1.0522584	0.76201206	1.0317308	1.0559928	0.8552437	1.0078169	0.9220461	0.96369404	0.9847088	0.9782465
Alpha 1 - inhibitor III	0.88005628	1.1766325	0.84137124	0.83543285	0.9544944	0.8765229	0.80410594	0.7078653	1.0078653	1.0766128	0.9358605	0.5285459	0.5299165
Sialin carrier protein 2	1.1095537	1.0020678	1.0064154	0.92193884	1.0197444	0.85741395	0.9451604	0.9011237	0.82231605	1.0184975	1.1678137	0.71028808	0.81098373
Organic anion transporter 3	1.1187407	1.0294971	0.8862291	0.8401815	0.778048	0.85176517	1.0557844	0.8243237	1.1395832	1.1864703	0.95527466	1.3530952	1.2022872
Calgranulin B4	1.1493657	0.9719885	0.9084905	1.165346	1.0576253	1.1579480	1.0738946	0.941444	0.9238302	1.0860199	1.078079	0.89649	1.1935552
Phase-1 RCT-162	0.89720577	0.9338546	1.0664732	0.8823813	0.9195814	0.82567465	0.9718923	0.8350927	0.81223404	0.83947417	0.9598459	0.9505997	0.7678482
Calgranulin B8	0.850159	0.9115169	1.1785967	1.1970801	0.8810825	0.9140274	1.0529773	0.9537588	0.8196984	1.0700532	1.2096678	0.99157864	1.0409285
Adenylate dehydrogenase, mitochondrial	1.0212852	0.96167395	1.0396155	0.8669807	0.86059807	1.0180595	0.97370654	0.8945173	0.9007163	0.98642144	0.97525597	0.8944158	0.8807548
Phase-1 RCT-128	1.1650583	1.1886596	1.125991	0.98781335	0.9231682	0.81500366	0.9813922	0.8352602	0.84314794	0.8913848	1.038648	0.82896674	0.81167114
Phase-1 RCT-102	0.8075329	1.1497539	0.7008995	1.2441186	1.2227176	0.8841807	0.98523085	0.81452824	1.4256184	1.1631548	1.2033472	1.4304422	1.2307757
Preproalbumin, sequence 2	1.0234745	1.3244703	1.1841422	0.887009	0.918849	1.0117987	0.86917937	0.65530937	0.75153494	0.9548956	0.7810226	1.3611115	1.0348523
Apolipoprotein AII	1.833447	1.6234235	1.3554184	0.6765108	0.87084734	0.6565382	0.81816316	0.69438758	1.2039402	1.0742275	0.98715204	0.94078397	1.3517832
Phase-1 RCT-10	1.115572	1.47564	1.460461	0.9665226	0.8378787	1.050089	1.0484662	0.8607887	0.8640747	1.198762	1.2521398	1.3124697	1.3517832
Phase-1 RCT-48	1.6863747	1.8654797	1.3337924	1.1499543	1.4814893	0.92594284	1.1625558	0.9046881	1.2125468	1.198762	1.2521398	1.3124697	1.3517832
Phase-1 RCT-3	1.0594101	1.3829082	1.1708002	0.9540422	0.96511793	1.0657654	1.1178143	0.716768	0.792023	0.8501004	0.7819844	0.86059308	0.854054

Phase-1 RCT-168	0.84065604	0.88009899	1.16380551	1.03489044	1.10022086	1.10471334	1.0354748	1.04330973	1.0322855	1.0254028	1.0594311	0.97380015	1.2182854
Phase-1 RCT-88	1.0946724	1.4547548	1.26784	1.0965971	0.93397045	0.80873495	1.007487	0.9333916	0.9709692	1.0028412	0.9076848	1.0592361	1.0436889
Beta-alanine synthase	1.6843997	2.1203961	1.9604373	0.79492547	0.46308443	1.0008141	0.8140378	0.1468322	1.2936279	1.047145	1.0717222	1.8477233	1.3857671
Phase-1 RCT-298	1.2385194	1.604609	0.847612647	0.9452574	0.8324739	0.9501228	0.1898391	0.61804134	1.0271872	1.3798724	1.076027	0.72019484	
Carbonic anhydrase II	0.44392034	1.690607	0.7984101	0.5934242	1.3014737	0.82857848	1.4373378	0.76540256	0.9608338	0.7321452	0.7210667	0.82829427	
Phase-1 RCT-291	0.9854612	0.8469616	0.99152267	0.6868417	0.9240173	0.58173204	0.927695	0.9736305	0.9608338	1.0276227	1.437378	0.92884176	1.0724095
Carbonic anhydrase III, sequence 2	1.2786609	1.555703	1.3459808	1.0553266	0.9525336	0.5781079	0.98534435	0.8344783	0.8285978	0.8402429	0.7889383	0.8262905	
Phase-1 RCT-271	0.85976017	0.7572687	0.52788559	0.7833346	0.84778926	1.0852008	0.98519366	1.2707809	0.9527961	1.0058054	0.8527888	0.8218332	0.85341597
HMG-CoA synthase, mitochondrial	0.82812923	0.99324024	1.14323234	0.8624017	1.0350075	1.1001743	0.80759054	0.72492045	0.8578224	1.2178248	0.9097082	1.0108492	1.1383184
Phase-1 RCT-189	0.8481671	1.1903716	1.0813708	0.99551433	1.0355072	0.99956302	1.1124154	0.9274709	1.0262027	1.0594009	0.9169716	0.78421455	0.7822837
Phase-1 RCT-40	1.1573904	1.4806337	1.2114936	0.9542228	0.6944927	0.8666231	1.1433935	0.9270871	0.8636049	0.8517248	0.8059236	0.8708082	0.8521345
Urinary protein 2 precursor	1.5637998	1.7302519	1.0247163	0.9412274	0.9271659	0.8805025	0.8625305	1.0719666	0.7993993	0.7790721	0.8059236	0.8708082	0.8521345
Paraoxonase 1	0.985834	1.0961016	1.089469	0.8021674	0.8265013	0.7688113	0.8397236	0.7640988	0.8197056	0.8579436	0.9522877	0.7212046	0.6394304
Liver fatty acid binding protein	2.4441092	2.0403391	1.4040172	0.6075475	0.7634533	0.9840876	0.99431583	0.7265947	0.6904703	1.0102272	1.0852236	0.51195566	0.98397656
Presenilin-1	0.8780759	1.1620302	0.84174045	0.8630076	0.94149333	0.8810114	0.87282366	0.602842	0.68035265	0.90328705	0.9103631	0.88397656	
Phase-1 RCT-38	1.0200139	0.8666223	0.824148	0.92765666	0.9687327	0.9111178	0.96490175	1.046939	1.0951434	1.2021264	1.2862306	0.96695904	1.1878588
Phase-1 RCT-270	0.8305639	1.039462	1.138116	1.0113083	1.1271573	0.8594698	1.1029173	0.87998738	0.87493768	0.8952242	1.1103922	0.89437	0.938573
Transferrin	1.182613	1.4871801	1.2497473	0.7778149	0.9214144	0.77605225	0.88059807	0.8328885	0.8776365	0.7782328	0.7506251	0.74069728	
Hepatic lipase	0.88108456	0.7321705	0.81244917	0.83342797	0.9409493	0.887411	0.6887075	0.83215165	0.8557157	1.0348941	0.6987887	0.5965308	
Cytochrome P450 11A1	1.0240898	1.086189	0.78875168	1.009098	1.1302683	0.96522355	1.0724602	0.8402163	0.84902724	0.827369	0.7212466	1.1011888	0.83290468
Phase-1 RCT-175	1.274576	1.2024239	1.1821849	1.0251148	1.0450282	0.9245302	1.1269246	1.0301884	1.1392814	1.3748171	1.1821868	1.4288599	1.3554323
Phase-1 RCT-117	1.3269714	1.7548465	1.8499606	0.84278566	0.66371604	0.8728142	1.0310671	1.0201884	0.8510796	0.9225142	0.9980955	0.8552747	0.7058342
Phase-1 RCT-137	1.280027	1.24049	0.8075857	0.9468865	1.0743308	0.8430574	1.0317822	1.12439	0.8415554	0.8630532	0.7345863	0.8408212	0.89916815
Melanoma-associated antigen ME491	0.8637384	0.9488621	1.0727094	1.1214070	1.0240333	1.1955447	0.934473	0.7494673	1.0615547	1.091171	1.209812	1.1394444	0.89916815
Phase-1 RCT-12	1.0464675	0.98147508	0.8225583	0.94483495	1.0256195	0.99801093	0.98594993	0.7494673	1.0615547	1.091171	1.209812	1.1394444	0.89916815
Phase-1 RCT-152	0.9580758	0.9580758	0.9580758	0.9580758	0.9580758	0.9580758	0.9580758	0.9580758	0.9580758	0.9580758	0.9580758	0.9580758	0.9580758
14-3-3 zeta	0.8942836	1.1781572	1.074189	0.87141293	0.822318	0.87598594	0.98180586	0.8350881	1.0156889	1.08171	1.0732108	0.9775018	0.8843224
Cytochrome P450 2C23	1.6144022	1.177187	1.7060893	1.0642791	0.8873536	0.9903517	1.0080024	0.9269697	0.7691934	0.93078265	1.2082098	0.81701195	0.8609785
Voltage-dependent anion channel 2 (Vdac2)	1.3086264	1.06439	1.0559859	0.84019744	0.8428808	0.97696886	1.0745223	0.9050343	0.99136476	0.96807845	1.0265961	0.9429637	0.9831089
Phase-1 RCT-154	0.74023265	1.0496657	0.9854688	0.93318796	1.0617615	1.0871276	1.2570788	0.8418498	0.8718424	0.90939176	1.0408293	0.8349719	
Superoxide dismutase Mn	1.2963141	1.2324454	1.3689215	0.9540775	1.0481609	0.9625435	1.0393455	1.0340834	0.9925498	1.0761425	1.0318398	1.055182	
c-Myb	0.93519217	0.98840948	0.932215	1.1028724	1.1575606	0.9869386	0.8523903	1.0101562	1.1288445	0.9305745	1.0311163	1.0549872	
Phase-1 RCT-196	0.6806607	1.1317788	0.96808293	0.9712234	1.1018085	0.9372078	1.0598814	1.1140508	0.97863665	1.0650767	0.95397437	1.0850752	0.9288478
Cyclin G	1.0897768	0.9909014	0.9793995	0.954934	1.1774538	1.2735089	1.0770138	1.380818	1.1913975	1.0590248	1.164819	1.1176337	1.439632
Calgranulin B5	0.8476841	0.96069384	1.0095998	1.0070475	1.076253	1.0993432	1.1602268	1.0386683	0.93876513	0.986288	1.1352257	1.0376165	
p53	0.92214274	0.9652913	0.8431112	0.8290238	0.88633925	1.068822	0.96915054	1.0281878	1.1170901	1.0284007	1.0373162	0.9435335	0.78837794
Phase-1 RCT-205	0.8820342	0.85365116	0.9108519	1.1215739	1.1379027	0.88639624	0.93659624	1.1389754	0.87421014	0.94539265	0.94068704	1.0491421	1.0418348
Phase-1 RCT-68	1.2087077	1.030592	1.278018	0.9420305	1.0912894	1.0211445	1.1702831	0.98660207	0.84020367	0.9509399	0.96525503	0.98855603	0.9795848
Calspin 3	0.8803707	0.8829637	0.85809505	1.165344	0.9941706	0.9424836	1.0326995	1.21912	1.0577402	1.0264008	1.205785	1.2291316	1.1938387
Alpha-tubulin	0.9573715	0.75477425	0.70944154	0.8870043	0.9288084	0.984175	0.98742713	1.7517807	1.3497024	1.2024885	1.3015872	0.8348025	0.82056594
Ribosomal protein L13A	1.4137654	1.0563584	0.92322487	1.140696	1.0545754	1.1020317	1.1188962	0.9349457	0.9674274	1.0427498	1.122157	0.8749878	0.9151923
IgE binding protein	0.90697706	0.7637644	0.8367725	0.9581429	0.8392383	0.9626771	0.9242961	1.2479137	1.0169284	0.89403317	0.88913006	1.0033376	1.0662475
Phase-1 RCT-39	1.0752845	1.2717332	1.0648916	1.0198929	0.9815837	1.0454087	1.019377	1.005104	0.8384833	0.9831431	1.0431485	1.2024962	1.1031132
Helix oxygenase	1.050937	0.8638469	1.3069224	1.589924	1.008303	0.862806	1.169916	1.0401388	0.9380337	0.9999704	1.0400425	1.0588224	0.8929768
Phase-1 RCT-241	0.72688213	0.8484215	0.9124418	1.192604	1.1218424	1.0909808	1.1078037	1.1237997	1.077122	1.0831321	1.1070241	0.9853983	0.97400516
Ribosomal protein S9	1.2827181	1.1281371	1.0102783	0.96880184	0.97357766	1.014014	1.0585569	1.148671	0.8722428	0.94357684	0.81783645	0.8548823	0.82899263
Phase-1 RCT-258	0.7389426	0.88950128	0.8885091	0.9219119	0.9441823	1.0420799	1.4051087	1.0202287	1.0200604	1.0380138	1.0142348	1.020331	0.96158066
Phase-1 RCT-3	1.1884321	1.3802234	1.755123	0.9588067	0.765754	0.98488877	1.0250908	0.8651167	0.8578202	0.98289983	1.2870694	0.84839986	1.1878921
Apolipoprotein B	0.93808885	0.9675674	1.0151885	0.97381034	1.2165886	1.2033175	0.9684245	1.1311677	0.8997875	1.0565788	1.1429079	0.7937529	1.0471691
Mutating resistant protein-1	1.0356128	1.127873	1.369567	0.86807285	0.9240845	0.9724335	1.0016265	0.8687703	1.1637654	1.2468741	0.999822	0.94773215	0.80682147
Ornithine decarboxylase	1.1253372	1.1071773	1.077732	0.7985754	0.9881266	0.9851812	1.040023	1.0687549	1.264718	1.1232725	1.0789171	1.0144371	1.1188183
Thymosin beta-10	1.2976882	1.1689483	1.2924832	1.0391974	1.1427506	0.90840894	0.9385493	1.055102	1.0439138	1.0489488	1.050224	0.8021378	0.76895953
Phase-1 RCT-72	0.92328425	0.7272395	0.7384659	1.0286527	0.80544966	1.0778855	0.88763573	1.4557678	0.97420077	1.0021944	1.002368	1.2023968	1.1996327
Phase-1 RCT-109	1.2253447	1.1780587	1.178883	0.84171	0.8985793	1.00851376	0.85916114	0.93934304	0.9289586	1.0021844	0.9627658	0.96391587	
Phase-1 RCT-78	0.84437176	0.958274	0.9256248	0.7472123	0.7503434	0.8324584	0.8087292	0.81157285	0.9413892	1.0219846	1.0421382	0.78573758	0.8922478
Vacuole membrane protein 1	0.9210368	1.172133	0.9337484	0.95394874	1.0197811	0.90808778	1.0736228	1.1827416	0.7521176	0.9107577	0.73068376	0.9080168	0.7144388

Table 29

Phase-1 RCT-158	0.66185923	0.9700287	0.8789747	1.1776724	0.984992	1.030765	1.0872382	0.9579051	1.0160083	1.0162088	0.94729143	1.0809782	1.0338937
Phase-1 RCT-113	0.80044	0.92196745	1.0043885	1.0460893	0.954918	1.0304275	1.0719352	0.9525875	0.9275319	1.0092258	0.9460055	0.8318955	0.8228574
Endogenous retroviral sequence, 5' and 3'	0.8782672	1.2246895	1.0576297	1.0768603	0.9874615	0.8465937	0.99321085	0.85298073	0.8866827	1.1340623	1.0196021	0.8573687	1.0279377
LTR	1.2112511	0.9523154	1.039192	0.8045793	0.98306304	0.83742505	0.9728326	0.9561148	0.8947739	1.0470592	1.0591486	0.8745468	0.74550587
Beta-actin	0.9787127	0.93982977	1.014891	1.0458671	0.9322794	1.1789769	1.1039526	1.0191324	1.2497288	1.1730624	1.1810716	1.140557	1.3204659
Phase-1 RCT-65	1.3847288	1.4691025	1.1155107	1.187581	1.0677294	1.1895829	1.0599222	1.1407367	1.5316396	1.5088453	1.278859	1.2659328	1.3743788
MHC class I antigen RT1A1(I) alpha-chain	1.0850557	0.9463466	0.9335294	0.96037847	1.1219188	1.1170973	1.0068831	0.7727151	1.3098528	1.181285	1.2065555	1.0946876	1.2154232
Bax (clbba)	0.82184803	0.94956553	0.84681087	1.132739	1.0555002	1.1249284	1.103572	0.8331498	1.1370302	1.0101993	1.0951584	0.9547021	0.89553744
Carboxyl reductase	1.1689748	0.87847847	0.9942967	0.8476905	0.9871708	0.84585583	1.022719	1.1220148	1.0089226	1.0326213	1.049887	0.83140105	0.9974354
Beta-actin, sequence 2	0.97634463	0.96845137	1.0477495	0.994913	1.0058454	1.036691	0.898076	0.7833881	1.151432	1.1544472	1.0911233	0.88778737	0.8727874
Interleukin-10	0.9768829	0.91685814	0.95823455	1.119919	1.2202441	1.1571751	1.0781744	1.0791872	1.0272368	0.9955303	0.99309844	1.0519683	1.1723387
Phase-1 RCT-191	0.94584537	0.85225934	0.81821663	0.7806872	0.7899545	0.91603138	0.8306917	0.7215341	0.91962826	1.0331266	1.0893724	0.8341245	0.93308353
Phase-1 RCT-111	1.055647	1.1804605	1.0317785	0.9700572	0.9197593	0.9531878	1.0253778	1.1037625	0.72551674	0.7790015	0.738749	0.951435	0.6873325
Apoptosis-regulating basic protein	1.4489778	1.271341	0.6951654	0.8915086	0.83061403	0.8684461	0.8287714	0.86738107	1.11503	1.1948129	1.5335505	1.0772269	0.9913603
Glutathione peroxidase	0.831528	0.9372528	1.022839	1.053111	1.1812822	1.2366444	0.87289913	1.1805832	0.9815478	0.9207137	0.9185731	1.113898	1.1029582
Phase-1 RCT-239	0.74497527	0.886868	0.828591	1.1761992	1.1780342	1.0562395	1.0678418	0.9528621	0.83159044	0.755028	1.2148254	1.0016134	1.094271
Phase-1 RCT-87	1.0591231	0.84576347	1.0653153	0.9807621	0.9244295	0.9045114	0.994653	0.8342107	0.849709	0.90485587	0.9577213	1.2163014	0.6651891
Trypophan hydroxylase	1.1041638	1.5164465	1.143243	1.0014784	0.96013014	0.8912722	1.0608377	1.01478	0.9219828	1.0210114	1.031204	1.0287208	1.0751382
Sulfatransferase K2	0.9003511	0.8984126	1.073855	1.1530699	0.9446691	0.9634938	1.022457	1.104733	1.0001745	0.9882874	0.9538114	1.108561	1.1538095
Calgranulin B8	0.9840272	0.95242268	0.8345736	1.1157596	1.1157596	1.1419148	1.2894577	1.04733	1.0001745	0.9882874	0.9538114	1.108561	1.1538095
Phase-1 RCT-123	1.0082708	0.93524003	0.9872285	1.0406549	0.9705269	1.0309908	0.9523316	0.8560044	1.0625381	0.9882147	1.0491878	1.054389	1.1278556
Phase-1 RCT-98	0.9786998	0.84946144	0.93530394	1.109878	1.0583375	1.0375359	1.0878399	0.99781805	1.0107118	0.9808422	0.94482875	1.0844895	1.0948909
Atsaphin-3 (AOP3)	0.82795038	0.17317882	0.08652063	0.924218	1.3080855	1.4587854	0.9180189	1.2807087	0.4816612	0.8938251	1.0535356	0.3785573	0.30454892
Stearyl-CoA desaturase, liver	1.1463044	0.7713191	0.79589236	1.1597813	1.0597410	1.1571324	1.1043808	0.9984186	0.9512685	1.0032088	1.0731648	0.981597	1.0562081
Phase-1 RCT-84													
(1) Gene expression data for 24 hour													
timepoint are presented as mean ratio of													
treatment/control for all 24 hour predictive													
genes (Table 5).													
(2) Compound and dose abbreviations as in													
Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for													
compound-dose group at 72 h: yes-no,													
necrosis observed; yes-both, necrosis with													
inflammation observed; no, no histopathology													
observed													
(5) Predictive gene (as in Table 5 and as													
included in Table 26)													

Table 29

Table 26. Expression Data for 24 Hour Timepoint (1)													
Compound-Dose (2)	ISON 200	KETO 20	KETO 20	KETO 20	KETO 20	KETO 80	KETO 80	KETO 80	KETO 80	LPS 2	LPS 2	LPS 2	EST 0.1
Animal Number (3)	1956	no	no	no	no	no	no	no	no	no	no	no	no
Liver Toxicity Inflammation Classification (4)													
Gene Name (5)	no	no	no	no	no	no	no	no	no	no	no	no	no
Gamma-actin, cytoplasmic	0.81980353	1.1659275	1.0088009	1.066492	1.3458477	1.184166	1.0273638	1.4728116	1.2985538	1.0561625	0.8396725	1.2726216	0.9196373
Phase-1 RCT-145	0.961513	0.9818517	1.011452	0.9859617	0.9848278	0.8787333	0.98468607	1.1258441	1.3158165	1.0964004	0.9898763	0.8101653	0.82087
Gad64	0.822802	0.81708075	0.830314	0.9054078	1.2390478	0.9678733	0.74519116	0.8678016	1.2772439	0.98532474	0.97304916	0.7607688	0.8417025
Phase-1 RCT-78	1.0377523	1.0118381	0.9816393	1.0354508	1.0254543	0.83332005	0.8411967	0.8254054	0.9239322	0.7813929	1.015147	1.0304314	1.1373146
Pas antigen	0.9702953	1.177694	1.0770116	1.085591	1.1050112	1.1259138	1.1101309	1.5074538	1.5125273	1.3780355	0.8435948	1.0709106	1.0974652
Macrophage inflammatory protein-2, alpha	1.0896603	0.9529995	0.867473	1.0371416	0.9972284	1.0656035	1.1011402	0.9760901	0.9173916	0.9259847	0.90451324	1.008894	1.011855
Integrin beta1	1.0344393	1.1648862	1.1730943	1.3319918	1.2326119	1.2749977	1.3853216	1.0486841	1.8701841	1.7242453	1.017669	0.9817203	1.2238302
Phase-1 RCT-207	1.1958573	1.0381837	1.1365409	1.0940908	1.0538605	1.1863881	1.0710578	1.048158	1.0363657	1.2952818	0.84307384	0.7455412	0.67223334
Aspartate aminotransferase, mitochondrial	0.74748577	0.9393543	0.91897786	0.9501369	0.9209142	0.83588986	1.0110958	1.020581	1.0485985	1.0712389	1.2853083	1.461474	1.5003353
Casein-alpha	1.1986328	1.0475882	1.054218	1.033398	1.0028332	0.8444168	0.9734327	0.9515057	0.95014854	1.0021313	1.183823	0.6382966	0.7807335
Malic enzyme	1.1051248	0.8145843	0.941238	0.92794684	0.9826604	0.8381218	0.874493	0.7752546	0.9688324	0.8501989	0.99719808	0.650885	0.5165728
Phase-1 RCT-30	1.1005905	0.8970306	1.0381746	0.9933225	0.984623	0.8835008	1.0762517	0.8973588	0.7425278	1.3220089	0.8645484	0.63904643	0.6811359
Hepatocyte growth factor receptor	1.2638748	1.027575	1.063001	1.101021	1.0715938	1.0460532	0.9834322	1.2400773	1.0362331	1.322688	0.8381388	0.78552504	0.83822074
MAP kinase kinase	0.78093766	0.8888761	0.9750604	1.071804	1.077727	0.96799034	0.9258604	0.9680808	1.1647916	0.8871045	1.0518181	1.0921337	1.099124
Sodium/potassium cotransporter 1	0.7619419	1.0609772	0.8826819	1.1537883	1.2025312	1.2074665	1.2528331	0.8681726	1.176236	0.88427065	1.2090348	1.4381496	1.61234
Phase-1 RCT-27	1.853898	0.5274138	0.9800555	0.5884441	1.0651732	1.04085	1.1780117	0.4321448	1.0367874	0.8878195	1.7838923	0.67838466	0.8673863
Phase-1 RCT-50	1.1080082	0.9425652	0.9800424	1.0237840	0.925345	0.83158004	0.9610024	0.8530007	0.1690044	0.7938151	0.7411157	0.6185437	0.85348787
Phase-1 RCT-192	1.0873399	0.9880838	0.98737316	0.9433329	0.923407	1.3487914	1.0871835	1.7687748	1.3598887	1.3810881	1.0894567	1.2840646	1.1900749
Phase-1 RCT-288	0.8286943	1.1756977	1.0710568	1.114428	1.1401707	1.0990577	1.068173	0.7829393	0.7517834	1.1970166	0.9148717	1.0593352	0.9888588
Phase-1 RCT-37	0.8676818	1.0680957	1.0543805	1.0296888	1.0892788	1.2211272	1.1047448	1.2469475	1.2070819	1.3267156	0.97405064	1.0925614	1.0572598
Organic cation transporter 3	0.85970926	1.0366878	0.99726935	1.0313098	1.0486721	1.307362	1.1350403	1.360597	1.3816513	1.3338286	0.81377705	1.174476	0.9655044
60S ribosomal protein L6	1.0777481	0.93726208	0.9321073	0.9492872	0.9538503	0.8633567	0.92881405	1.126794	1.159219	0.8886028	0.9924435	1.2370325	0.8665538
Zinc finger protein	0.9008973	0.94948316	1.117017	1.0698834	1.0453694	0.8633785	1.0811646	0.9245238	0.89602538	0.95864993	0.9671858	0.73436064	0.82474478
Calgranulin B2	0.9758971	0.9046503	0.9835815	0.98861206	0.8877909	1.3820323	1.0471778	0.93353508	1.052181	0.924412	0.587715	0.9541844	1.0727197
Phase-1 RCT-92	0.84373447	0.9174059	0.9532075	0.75828697	0.826272	0.8377458	0.90466255	0.5417528	0.9924412	1.3840438	0.85604423	0.86285255	0.7190817
Phase-1 RCT-115	1.0986616	0.99857445	1.0367155	1.03691	0.9544434	1.058688	1.492439	0.7183864	1.0614078	1.367715	0.85604423	0.86285255	0.7190817
Matrin F/G	1.2633303	1.4045409	1.1659637	1.4520997	1.3897683	1.318737	1.3312683	1.2212411	1.0614078	1.588672	1.1184754	1.2997053	1.1500682
MLL homologue (MLH1)	1.0673726	0.9772407	0.9383864	0.9720207	0.9800875	1.1118248	0.99492306	1.0751213	0.922804	1.1588117	0.9830658	0.93588394	0.9087836
Phase-1 RCT-79	0.9407209	0.99142184	1.0724362	0.9839769	1.0803216	0.88801813	0.9878941	0.98758954	0.73705155	1.0138951	0.80701865	0.7550046	0.7181288
Sorbidin dehydrogenase	1.0185959	1.0466129	0.980248	0.997816	0.9484675	1.1340083	1.159135	1.1517	1.3807027	1.0180518	0.8220114	0.9909119	1.058229
Phase-1 RCT-24	1.3532889	1.1227802	1.2107719	1.1653223	1.1584629	1.4098384	1.1768937	1.8730942	1.4835359	1.840288	1.1625868	1.310083	1.0567348
Calgranulin B1	1.2607727	1.1037432	1.149822	1.018359	0.9281198	0.947204	1.115508	1.6576843	1.3162665	1.604499	0.86354595	0.8163858	1.2081832
Elongation factor-1 alpha	0.76193786	1.002233	0.97490043	1.1289371	1.0316497	1.2854718	0.9359877	0.6416021	0.8949168	0.7814844	1.015189	1.0640885	1.4301397
L-glutono-gamma-lactone oxidase	1.3205411	1.0461835	0.9887675	0.6515527	0.7328324	0.8261718	0.9359877	0.6416021	0.8949168	0.7814844	1.015189	1.0640885	1.4301397
Phase-1 RCT-33	0.610948	0.98523667	1.0531303	0.8833054	0.820232	1.088969	0.92221445	0.7359658	0.55606834	0.864492	1.809142	1.3452349	1.2158774
C-Jun	1.2417426	0.9742847	1.0484569	0.89439645	1.6228351	1.0218707	1.0708773	1.046895	0.7730989	1.0248736	0.9428843	0.7076349	0.92822963
Phase-1 RCT-233	0.9889171	0.84679845	1.0046378	0.8390657	1.121313	0.8777401	0.8043844	0.51659334	0.53044265	0.6981768	1.0081545	0.90811864	1.0282988
Phase-1 RCT-36	0.8600779	0.9551978	1.0053525	0.9150101	0.86873776	1.0515262	0.9250851	0.88849858	0.8386043	1.0073639	1.128538	1.1025287	0.9779161
Phase-1 RCT-242	1.0035763	1.0098862	1.0706884	1.0523593	1.1397182	0.9251136	0.9117706	0.9335592	0.94909996	1.0268097	0.9390978	0.63089373	0.78180763
Phase-1 RCT-181	1.2258081	1.0903194	1.0771166	0.9549648	0.8813169	1.3537452	1.1235317	0.78118643	0.8986276	0.8017877	1.0274212	0.9818725	0.87331405
Phase-1 RCT-185	0.8708094	0.89331794	0.871216	0.8763624	0.9215216	0.8757807	0.8845327	0.57190675	0.5531281	0.5953927	1.2825836	1.1385449	1.1981014
Phase-1 RCT-179	0.83247066	0.91715593	1.014976	1.0288103	1.0328587	0.9929803	0.9842638	1.14418	1.1620084	0.88938393	0.8808916	1.2638722	1.0751065
Phase-1 RCT-144	0.90320111	1.058249	1.0345533	1.0436681	1.0203048	1.0055278	0.88246276	1.146836	1.240528	0.91690305	0.9848566	0.84371257	0.8762918
Phase-1 RCT-225	0.7720562	0.9401116	1.0043068	1.0271188	1.0527065	1.2305292	1.1220281	1.3085651	1.3024883	1.1895149	1.4855899	1.4280132	1.3859623
IRB-A	1.4692731	0.80413955	1.2868481	0.9671189	1.2666693	0.5775507	1.1827702	0.9649061	0.9765965	0.9082588	0.9018574	0.8649655	0.8649655
60S ribosomal protein L6 (alternate clone 1)	0.81702286	1.0789739	1.0970656	1.0638716	1.1433125	1.2916285	1.1701252	1.4209286	1.687878	1.318884	1.0230248	1.2447221	0.993573
Beta-tubulin, class I	1.3948457	1.049039	1.1434577	0.8346446	1.2530004	1.5082289	1.1140807	1.7557883	1.8532543	1.4513957	1.0108775	1.2298692	0.8360896
Mitochondrial resistant protein-2	0.9808773	0.9189236	0.8775058	1.1235701	1.0640013	1.3016158	1.121188	0.8556285	1.5932912	0.8810166	0.7831205	0.8434906	0.82587056

Table 29

Phase-1 RCT-49	0.8343741	0.96536085	1.0347002	1.0472064	1.0431451	1.081106	0.9448738	1.1274874	1.1517112	1.1947484	0.9544208	0.7833854	0.80898125
Calgranulin B3	0.852346	1.0903741	1.0118438	1.0594568	1.0888842	1.1037564	1.0416651	1.2849755	1.3503848	1.2912887	0.9102316	0.8470503	0.8945488
NAAD-dependent isocitrate dehydrogenase, cytosolic	0.7823868	0.9417071	0.84153754	0.88674474	0.877695	0.9477158	0.9172877	1.035538	1.1166335	1.042831	1.103822	1.2804332	1.007262
Oxidant binding protein 1	1.138942	0.9501981	1.0664747	0.7438418	0.8897783	0.9414327	0.97792006	1.09121	0.6191674	1.1420946	1.1303307	1.0054168	1.0136973
Sodium/bicarbonate cotransporter	0.9246252	0.93963504	1.0768405	0.9767895	1.017017	1.1406238	1.0479002	0.74340034	0.8936628	0.7457223	1.139048	1.152487	1.0907456
Phase-1 RCT-174	0.81225145	0.95776806	1.076476	0.9763269	1.1242897	1.0884602	0.8038409	0.8930563	0.6553982	1.27768	1.3716483	1.1638613	
Phase-1 RCT-77	0.9441998	1.0348049	0.8927615	0.99313325	1.0025486	0.6813159	0.8502617	0.4417771	0.43084642	0.58972	1.1821638	1.6015104	1.7085139
Inositol triphosphate multikinase (pmk4)	1.2161734	1.0531038	1.704457	0.98428574	0.96595983	0.9261541	1.1587645	1.2927977	0.7549474	1.313328	1.1051437	1.430769	1.3682747
Phase-1 RCT-265	0.8391685	1.0333087	1.048404	1.0332998	0.8811779	0.73441984	1.1271869	0.9376783	0.8594266	0.80872238	0.86240016	0.9937122	1.0826118
Equilibrative nucleoside/nucleosine-sensitive nucleoside transporter	1.1470923	1.0721177	0.89904513	0.99018884	0.9857526	0.9885655	1.021909	0.97054297	0.93396246	1.0108408	1.1382835	1.2346054	1.2057886
CDK102	1.1538178	1.0585981	0.9829147	1.0190338	0.8310286	0.9801211	1.0531948	0.8634847	0.900725	0.90103783	0.97710466	1.1710525	1.2147553
Phase-1 RCT-209	1.0108911	0.9497801	0.8182326	0.9887427	0.78366657	1.2878464	0.87318227	0.6728621	0.7177974	0.7515808	1.4087878	1.1770525	1.2147553
NAADH-cytochrome b5 reductase	1.0588328	0.9882949	1.0967411	1.011337	1.0322993	1.0199403	1.054197	0.7403345	0.8332492	0.90224814	1.1083477	1.022748	1.1727281
Dynamin-1 (D100)	1.1247984	0.8957544	0.7546918	0.95135415	0.928715	0.77776897	1.0421358	1.1806708	1.3995938	1.308219	1.2435108	1.7119398	1.8992468
Serine/threonine kinase protein-30	1.1418126	0.9730109	1.0146686	0.9639989	0.8027262	0.9640189	0.9525853	0.84763914	0.729455	0.8917718	1.2136217	1.3255158	1.4308484
Phase-1 RCT-89	0.9778433	1.0278171	0.9645384	1.0178812	0.82824537	0.80165124	0.90330603	1.2285648	1.0831331	0.9114024	0.98093115	0.8807328	0.74948734
Camellia palmitoyl-CoA transferase	0.9596789	1.1619008	0.9270804	0.87470824	0.89684665	0.1451481	1.0677327	0.5897377	0.42528132	0.61538866	1.2188275	1.4390337	1.8096183
Alpha-2-microglobulin	0.7847085	1.053716	0.96748304	1.1154201	1.01224	0.8177691	0.9126352	0.96989884	0.81018484	1.020589	1.3859916	0.97886734	1.3011009
Apolipoprotein CIII	0.99603754	1.0514872	0.9572921	1.091624	1.0340608	1.7347724	1.2783449	0.943671	1.5763138	0.8982358	0.88160926	1.2453498	1.2331133
Cathepsin L, sequence 2	0.6722004	1.1509092	1.0478556	1.031141	1.1580485	2.3014224	1.1372776	0.738509	0.1692734	4.8894225	0.9593192	0.762881	0.8912602
Phase-1 RCT-141	1.1866288	1.0324689	0.9728956	0.80391046	0.98521316	1.0134152	1.0429753	0.84858466	0.67115426	0.70188883	1.2333317	1.2304983	1.2174428
Endothelin-1	1.1555383	0.963924	0.9997654	0.98630475	0.81365895	1.0900887	0.9897185	1.0333135	1.2067653	0.9903304	0.9212898	0.7589734	0.8283772
Phase-1 RCT-282	0.9733658	0.9719218	1.0288541	0.92894767	0.8957024	0.90404695	0.8727823	0.93551236	1.0233729	1.2434165	0.8828874	0.58289346	0.68174105
Phase-1 RCT-140	0.9881486	0.9567745	0.9830304	0.92894767	0.8957024	0.90404695	0.8727823	0.93551236	1.0233729	1.2434165	0.8828874	0.58289346	0.68174105
Cylin D1	0.90724728	0.9898325	1.0319369	1.1838978	1.206082	1.0049003	0.8458683	0.74873865	0.68744457	0.76894208	0.8385972	1.1360551	1.5283848
Phase-1 RCT-287	0.7827775	1.1131109	0.92402857	0.94379616	0.93224203	0.9008286	0.9591691	0.9521175	1.2508853	1.0719463	1.0024188	1.2834116	1.2086767
Phase-1 RCT-281	0.85754406	0.9683422	0.87704678	0.9343561	0.965483	0.94939586	0.98749077	1.1442095	1.0101048	1.0179051	1.3902214	1.4682273	1.1698915
Retinol-binding protein (RBP)	1.7188332	0.8732487	0.78611164	0.817135	0.9830734	0.91125536	1.0627088	0.49393017	1.3650981	1.1365099	1.5112388	1.7710817	1.7710817
ATP-stimulated glucocorticoid-receptor translocation promoter (GyK)	1.2187892	0.9355874	0.9807181	0.851544	0.85916495	1.2512126	1.3437723	1.5160018	0.1495876	0.82778525	1.0003359	1.3212838	
Phase-1 RCT-60	0.9681628	0.98628763	0.9574742	0.9610542	1.0850699	1.0889122	0.8495292	1.0776445	1.1897027	0.8335712	1.0055622	0.98275715	0.9893145
Pyruvate kinase, muscle	1.445187	1.0758014	1.421782	0.9761035	1.051382	1.523137	1.1012504	0.8558803	0.6958784	0.9431177	0.9549041	1.178661	1.0959883
PAR Interacting protein	0.9152545	0.9957943	0.9853088	1.0780696	1.0077885	0.9724114	0.9821708	1.04938	1.1340226	0.9683348	0.9700523	0.956818	0.9813302
Nucleoside diphosphate kinase beta isoform	0.90629834	1.0158951	0.98783033	0.9448464	0.86050084	1.1630942	1.0625386	1.526773	1.765416	1.5130631	1.2227219	1.4191725	1.2128245
Gadd153	1.1022518	0.801045	0.9568821	0.88084676	0.97574218	1.0279391	0.9810714	1.2014396	2.4945552	1.0471916	0.76800688	0.7511739	0.828822
Insulin-like growth factor binding protein 1	0.7408934	1.0325334	1.0386331	1.1922898	1.2286586	1.3332133	1.4302044	1.0328858	1.0168333	0.9431177	0.9549041	1.178661	1.0959883
C-H-Hcs	0.8517048	1.0857929	1.0366333	1.077764	0.95597894	1.3585871	1.0802723	0.82434204	1.1187163	1.0524377	0.82278524	0.8465126	0.84686785
N-hydroxy-2-acetylaminofluorene sulfoxidase (ST1C1)	0.8782067	0.971423	1.0283146	1.0128206	0.8503795	0.8680189	1.1277404	0.64578414	0.79618734	0.87898786	0.8737829	1.2065144	1.1840572
Phase-1 RCT-52	1.0074973	1.0132383	0.7427139	0.9157375	0.973811	1.4581005	0.92905873	0.7153038	0.80819887	0.5895132	1.1309578	1.1915534	1.1085566
Alpha 1 - inhibitor III	0.773895	1.0781608	0.85472155	1.1821705	1.0094987	0.9528481	0.9528481	0.37201655	0.37341997	0.5830388	1.1347868	1.514807	1.1658853
Stead carrier protein 2	0.7572592	1.0532804	0.987309	0.90754837	0.88157004	0.7552584	0.8789012	1.1987628	1.097277	1.2810102	1.1692623	1.2216786	1.0921084
Organic anion transporter 3	1.2891245	0.9078735	1.0143822	1.1660897	0.9028798	1.3421004	1.2897395	0.8302369	0.41503594	0.8239205	0.79484707	0.9875803	1.1712021
Calgranulin B4	1.0844516	0.8979067	0.78976107	0.7506299	0.85414	0.7555825	0.8741541	1.293387	0.90923584	1.0804389	0.867943	1.2899326	0.8001259
Phase-1 RCT-182	0.7872885	0.985071	0.9217381	1.0233893	0.9017974	0.9419978	1.0357832	0.83652476	0.76337425	0.5875388	1.2729136	1.2817238	1.173113
Calgranulin B8	1.0614511	1.2112892	1.0974019	1.177785	1.1120715	1.4418878	1.0340444	0.9610461	0.8681959	0.9729705	1.2622858	1.3245763	1.2139002
Aldehyde dehydrogenase, microsomal	0.8360473	1.197637	1.0178883	1.0551094	1.1900282	0.859273	0.88378277	0.96037453	0.7891101	0.8958515	1.0377968	1.3785788	1.3970981
Phase-1 RCT-128	0.8005222	0.9075656	1.0571285	0.9793593	1.0483065	1.0452617	1.0104522	0.6858625	0.41107086	0.90647805	1.151074	1.284993	1.295294
Phase-1 RCT-102	1.9138232	0.9119279	0.967006	0.74424034	0.8762465	0.8647314	0.83925095	0.40094045	0.38983213	0.37785323	1.1315098	0.8204509	1.0402228
Pregnenolone, sequence 2	0.8227484	0.73791575	0.7431225	0.8757465	0.9808523	0.8451376	0.8546395	0.98613176	0.53019464	0.45034432	1.2856686	1.571755	1.6288151
Apolipoprotein AII	1.1577284	1.3144972	1.2855222	1.0883634	0.98984174	1.0133904	0.97922117	0.7189327	0.7786887	1.0716087	1.0716087	1.4086161	1.3875399
Phase-1 RCT-10	0.90960294	1.029465	0.89328235	0.9699783	0.88984174	1.0133904	0.97922117	0.7189327	0.7786887	1.0716087	1.0716087	1.4086161	1.3875399
Phase-1 RCT-48	1.317018	1.1085884	1.1481524	1.0485578	1.0813711	0.7876428	0.8333745	0.8333745	0.6866043	0.83187528	1.0363316	1.1058678	1.0457726
Phase-1 RCT-8	0.8083772	0.7656643	0.7656512	0.6816856	1.07110185	0.88763266	0.40431753	0.5704519	0.52874684	1.3043152	1.5335654	1.6565154	

Phase-1 RCT-168	0.9874058	1.0900715	0.89324605	0.95278835	0.9485305	0.85543555	1.0753123	1.2393059	1.0547968	1.073896	1.255812	1.2044877
Phase-1 RCT-48	0.9948443	0.85345215	1.0048211	0.7230025	0.7174807	0.8775012	0.8042633	0.9432807	0.8983335	0.47018245	0.90946355	1.0359122
Beta-alanine synthase	1.8064681	1.3307033	1.273631	0.9084508	0.8513335	1.4501706	0.9306873	0.94128007	0.8886072	1.015452	0.9856528	1.0597106
Phase-1 RCT-296	0.96224703	0.9902157	0.7501596	0.9114901	0.71358784	1.124458	1.0836494	0.18624211	0.42324678	0.3878468	1.128173	1.4011158
Carbonic anhydrase III	0.8057871	0.9288065	0.7189903	0.9923816	0.85021145	0.3300868	0.17889751	0.72073215	0.26353244	0.4604737	0.9381163	0.93755704
Phase-1 RCT-291	1.0158128	1.065928	1.039503	1.1050478	0.98127245	0.82766075	0.1676751	0.72073215	0.8665208	0.74189234	1.0588002	1.1428682
Carbonic anhydrase III, sequence 2	0.78814745	0.6933563	0.8932164	0.60878044	0.6637146	0.8360448	0.83737963	0.32035166	0.4545226	0.39444232	0.840287	0.965958
Phase-1 RCT-291	0.9415461	0.94013023	1.037084	1.0318889	1.0311526	1.1732894	1.2239169	0.6637315	0.2028904	0.6846801	0.89283754	1.067602
HMG-CoA synthase, mitochondrial	0.88098647	1.1245063	1.289756	1.3846582	1.2860736	0.9055913	1.2239169	0.6637315	0.2028904	0.6846801	0.89283754	1.067602
Phase-1 RCT-189	1.0231894	1.0282481	1.1416671	1.1672821	1.3547597	0.9674904	0.9674904	1.0153842	0.7740885	1.0181948	1.4367621	1.5725679
Phase-1 RCT-40	0.90376556	0.93398064	0.859168	0.7847021	0.92088926	0.92360145	0.9650197	0.9568052	0.9313905	0.9503158	1.1742792	1.2653584
Urinary protein 2 precursor	0.7769733	0.9832317	0.95804465	0.8612702	0.92068338	0.9118821	0.9665007	0.931244	0.9522689	0.4989013	1.0198001	1.5812876
Paraoxonase 1	0.8252485	0.83562317	0.82942287	0.8612702	0.92068338	0.9118821	0.9665007	0.931244	0.9522689	0.4989013	1.0198001	1.5812876
Phase-1 RCT-175	0.940453	1.0134888	0.99712616	1.0103928	1.0122951	1.2300444	1.151041	0.9830048	0.820356	0.83796378	1.000434	1.5630232
Phase-1 RCT-137	0.8059044	1.2125023	0.95947254	1.5200884	1.0179424	1.0145471	1.2300444	1.151041	0.9830048	0.820356	0.83796378	1.000434
Phase-1 RCT-38	1.2816015	1.1007607	1.1689164	0.902878	1.0179424	1.0145471	1.2300444	1.151041	0.9830048	0.820356	0.83796378	1.000434
Phase-1 RCT-270	1.0886602	1.0313213	0.90252568	1.1331205	1.288894	0.77335294	0.8087182	0.9421668	0.4094962	0.53050668	1.1740705	1.5640381
Transferrin	0.76562497	0.9377307	0.8301628	0.9019635	1.134158	0.60490704	0.76054016	0.42981857	0.4094962	0.53050668	1.1740705	1.5640381
Hepatic lipase	0.61828114	0.90554285	0.97100395	0.84920377	0.9953846	0.75468947	0.79316807	0.63297566	0.39367592	0.9658717	1.2350059	1.7150329
Cytochrome P450 11A1	1.15377	1.0283291	0.83363566	1.1504515	0.89302884	1.2848603	1.047428	1.1125987	0.73751175	1.3016435	1.00116	1.2099363
Phase-1 RCT-175	1.1103174	1.1098975	0.8927804	1.0707767	0.9578135	1.043723	1.075502	0.8315368	0.82826114	0.90066135	1.0713948	1.1339331
Phase-1 RCT-175	1.4304345	1.2542578	1.2490878	0.9786008	0.5740555	1.3832319	1.3353597	1.0200552	0.86052024	0.9624816	0.9787938	0.975172
Phase-1 RCT-196	0.853945	0.9971414	1.0078024	0.938773	0.98073945	0.9891708	0.940684514	1.04898	0.9823534	0.9924816	1.2880542	1.6480101
Melanoma-associated antigen ME491	0.86847868	0.9450409	0.90301114	1.020077	0.8494096	1.1832627	1.3207452	1.008568	1.5208848	1.45977	0.978908	0.9057867
Phase-1 RCT-12	1.2095588	0.8495573	0.9257831	0.9377851	1.0292154	1.104016	0.80757394	1.4163115	1.0893043	1.2443941	0.9702024	0.8664395
Phase-1 RCT-152	0.77847064	0.9682155	1.1383021	1.0854201	1.0839046	1.4144182	1.1633762	1.8298889	1.3071955	1.399048	0.9589547	1.1228673
14-3-3 zeta	1.0846046	1.0217621	0.9547824	1.0897404	1.0538205	1.0028598	0.8514187	1.3725313	1.2160381	1.1813891	0.68831483	0.7597283
Cytochrome P450 2C23	0.8573345	1.0592669	0.8739144	0.867928	0.9895011	1.5887918	0.9658204	0.33988202	0.1542706	0.39495953	1.532878	1.5868357
Voltage-dependent anion channel 2 (Vdac2)	1.0642884	1.1340121	1.0680932	1.1801123	1.1801408	1.1836747	1.1058864	1.3598763	1.2013805	1.2618247	0.0351424	1.128038
Phase-1 RCT-154	1.0284287	1.047096	1.0404276	0.9926371	1.0093783	1.045577	1.00823	1.048311	1.2833568	1.3672818	0.9322451	0.8504946
Superoxide dismutase Mn	1.153363	1.0530084	0.8715418	1.09284	1.1650927	1.3349029	1.091882	2.318468	2.6711468	2.7240653	1.8001138	1.1802138
C-myc	0.92383375	1.0265819	1.0435165	0.94813126	0.94813126	0.94813126	0.86624327	1.047892	0.8681479	0.781741	0.77054375	0.7202864
Phase-1 RCT-196	1.1495323	0.9303963	0.881665	0.9096685	0.9256783	0.752358	1.0116875	0.98478655	1.0208223	0.90740087	1.0938792	1.2323217
Cyclin G	1.1285484	0.985988	1.0409845	1.0224708	0.981238	1.0224708	0.8351868	1.3943882	1.5579362	1.4101044	0.8586254	0.6854
Calgranulin B5	1.028804	1.0184662	1.0833421	1.0571424	1.0266337	1.1449567	1.0227468	1.3204888	1.2331531	1.288895	1.075326	0.8871185
p53	0.97080374	0.84729015	0.841774	0.9704472	1.0204778	0.9848071	1.0112285	1.7164048	1.261226	1.0319926	1.0898789	0.85842365
Phase-1 RCT-205	0.9223324	0.9740806	0.8603548	0.805594	0.93257433	0.8851988	1.0022384	1.027117	1.0319926	1.0898789	0.85842365	0.8580757
Phase-1 RCT-68	1.1217321	0.9523327	0.8465471	0.96109857	1.0089284	0.8937842	0.8805882	1.3280482	1.3988637	1.1458852	0.9161487	0.8287508
Caspase 3	0.96518263	0.8747883	1.1163747	1.0958884	0.928473	1.1858555	1.1440717	0.90881805	0.87231225	1.0555503	0.7896991	0.5334997
Alpha-tubulin	0.8813765	1.0164001	1.1163747	1.0958884	0.928473	1.1858555	1.1440717	0.90881805	0.87231225	1.0555503	0.7896991	0.5334997
Ribosomal protein L13A	1.057748	0.965749	1.0644748	1.0300073	1.2078028	1.1068718	1.449454	1.0527028	2.2124888	1.4674202	1.3034056	1.117191
IgE binding protein	1.03284	0.9438508	1.003481	1.075561	1.0368315	1.0368315	0.84558658	0.9702258	1.2521025	0.93873	1.2001454	0.995314
Cofilin	0.910445	0.8537863	0.8487809	1.0517478	1.0217646	0.8435281	0.9882946	2.7488493	3.3077483	3.1073923	2.0682865	1.224628
Heme oxygenase	0.85401804	0.8055482	0.883434	0.79821795	1.1525307	0.99581945	0.9882946	2.7488493	3.3077483	3.1073923	2.0682865	1.224628
Phase-1 RCT-241	0.94594383	1.0499238	0.9388867	0.9365588	0.95228573	1.325914	1.333934	0.8619822	1.4915233	1.4915233	1.4915233	1.4915233
Ribosomal protein S9	1.0237927	0.9904916	0.87291523	1.0457307	0.9539249	1.0400238	1.0035751	1.2591383	1.425668	1.2713425	0.9889009	0.7085986
Phase-1 RCT-258	1.0343597	1.230507	1.098382	1.2853561	1.2319297	1.195606	1.1187153	1.2298504	1.4817644	1.6033953	1.1617475	1.1483281
Angiotensinogenase Iyase	1.0343597	1.230507	1.098382	1.2853561	1.2319297	1.195606	1.1187153	1.2298504	1.4817644	1.6033953	1.1617475	1.1483281
Phase-1 RCT-180	0.87509688	1.1214033	0.957489	0.9148304	0.8767878	0.95894476	1.083627	1.91852856	1.424878	0.8177186	0.8767878	1.1483281
Mutagen resistant protein-1	0.8455738	0.80356574	1.0856688	0.8322014	0.97534186	1.1417308	1.0683627	1.2346168	1.4650202	0.9164282	0.62358548	0.7172804
Omitrin deacetylase	1.3415717	0.9827797	0.93766524	1.095561	1.060935	1.0942605	1.0808917	1.2346168	1.4650202	0.9164282	0.62358548	0.7172804
Thymosin beta-10	0.9146678	1.0686759	1.070773	0.9657393	1.0829132	1.3850416	1.1612659	0.73462015	1.214807	0.728552	0.6231907	0.6832535
Phase-1 RCT-72	1.099171	0.9987163	1.1000473	1.0170418	1.0819869	0.99372245	1.1433805	1.2346168	1.4650202	0.9164282	0.6231907	0.6832535
Phase-1 RCT-109	1.090198	1.03228	1.1245688	1.0318047	1.1825358	1.365317	1.1405842	2.135516	1.182466	1.31975	1.1182466	1.2635435
Phase-1 RCT-76	0.8990399	0.97328395	0.8867746	0.95887333	1.012312	0.9206966	0.8881139	1.2799122	0.98749804	1.208458	1.1228975	0.8647801
Vacuole membrane protein 1	0.77283208	0.93145746	0.8795046	1.0005101	1.1441445	0.88457227	0.8028392	0.8328071	1.190974	0.8946488	0.9423752	1.4535501

Table 29

Phase-1 RCT-158	1.0069587	0.9804196	0.98507273	0.9558102	0.93113655	0.97555653	0.9802613	1.0711039	1.3011131	0.9597124	0.89449936	0.62580654	0.782267
Phase-1 RCT-113	0.8185781	0.98035874	0.9035147	0.9654516	0.9891713	0.97686633	0.92830145	1.397883	1.8157112	1.3207585	0.9728081	0.81178804	0.8629102
Endogenous retroviral sequence, 5' and 3'	1.1070669	0.9789911	1.1128078	1.1103172	0.8919403	0.53027105	1.2164467	1.4974666	0.7858484	0.9622971	0.7465968	0.79731405	0.92915183
LTR	0.72711604	1.261218	1.1297102	1.3523881	1.4098844	1.2310386	1.0602597	1.8834116	1.81845	1.8085961	0.7375403	0.8083423	0.72488789
Beta-actin	1.3850147	1.0807959	1.033921	1.1916884	1.2472743	1.0737641	0.9905068	1.1218907	1.0549754	0.8870772	0.7888141	0.6928104	0.8345931
Phase-1 RCT-65	1.2248117	1.0487486	1.160248	1.123869	1.1468264	0.9636944	1.1657886	1.3615812	1.6303443	1.2239627	0.8308881	0.8013304	0.96461847
MHC class I antigen RT1.A1(0) alpha-chain	1.1708462	0.91686594	0.9538958	1.0041071	1.0121685	1.0433627	0.950555	0.8581607	1.7328737	0.7866875	0.88007386	0.93821704	0.77865083
Bax (alpha)	1.080439	0.9830242	0.96168107	0.9803597	0.86865103	0.97937485	0.9539153	1.7758193	1.1830655	0.85136336	0.8673934	0.8795255	0.7894532
Carbonyl reductase	0.9796327	1.05739	1.0134748	1.0863146	1.1789522	1.1285318	0.94467795	2.5385015	1.837214	2.4577072	1.0022544	1.1652049	1.0062885
Beta-actin sequence 2	1.1594772	0.82338434	0.86486125	0.92874706	0.8429848	0.86120435	0.9129081	0.99418116	1.892138	0.8058113	0.85183823	0.81505436	0.74316373
Interleukin-10	1.1965028	1.1272738	1.1577923	1.1821475	1.186199	1.1168551	1.1671367	0.8985956	1.2811688	0.9095817	0.916745	0.80753434	0.4337102
Phase-1 RCT-191	0.89211863	0.967234	0.9080333	0.98906225	1.0582118	1.0028301	0.91705245	1.2543318	0.92628413	1.1221398	1.0907008	1.0940389	1.1481548
Phase-1 RCT-111	0.87599858	1.0212651	0.9301628	0.81223226	0.8810531	0.8355481	0.9171519	1.0168897	0.8980267	1.1167608	0.9508884	1.2212721	1.1711509
Apoptosis-regulating basic protein	1.0575132	0.94334775	1.1939531	1.2281624	1.1204993	0.95875504	1.0145445	1.2504882	0.42034262	0.43964502	0.7885713	0.8250034	0.86531475
Glutathione peroxidase	1.0390319	1.0439553	1.0084693	1.0854166	1.1205165	1.2076255	0.948328	0.48412522	0.877724	0.8743017	0.91726846	0.89480604	0.8509328
Phase-1 RCT-67	1.0224406	0.9168299	1.0184387	0.937735	0.9230387	0.90501124	1.0833777	0.6453314	0.42034262	0.43964502	0.7885713	0.8250034	0.86531475
Tryptophan hydroxylase	0.9604351	1.0520599	0.937735	0.9230387	0.90501124	1.0833777	0.6453314	0.42034262	0.43964502	0.7885713	0.8250034	0.86531475	0.8509328
Sulfolipase K2	1.2830923	1.0167573	0.94384553	0.92346378	0.87934567	0.7117351	0.966543	0.83065873	0.7887797	0.9522204	0.9629836	0.69934726	0.8977183
Calgranulin B9	1.0693469	1.0744168	1.1281583	1.09247	1.0712606	1.2503414	0.9505437	0.83065873	0.7887797	0.9522204	0.9629836	0.69934726	0.8977183
Phase-1 RCT-123	1.1870042	0.98540083	1.0448672	0.88120115	0.9529057	0.9081538	0.9505437	0.83065873	0.7887797	0.9522204	0.9629836	0.69934726	0.8977183
Aquaporin-3 (AQP3)	1.0490884	0.95271137	1.012697	0.92840874	0.95037514	0.86953455	0.9509563	0.97879367	0.86145854	0.7598676	0.897393	0.88524754	0.77075803
Stearoyl-CoA desaturase, liver	0.39296388	0.5551645	2.3170536	0.6518478	1.894991	0.7837848	0.9207206	0.3077842	0.05174578	0.2249203	1.356951	1.3984963	0.4242189
Phase-1 RCT-84	0.92618086	1.0138769	0.8780846	0.95526135	0.96639115	1.0959152	0.8531609	0.8280067	0.7236261	0.7335034	1.019528	0.85589555	0.71806085
(1) Gene expression data for 24 hour timepoint are presented as mean ratio of treatment/control for all 24 hour predictive genes (Table 5).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound-dose group at 72 hr: yes=necr, necrosis observed; yes-both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 5 and as included in Table 26)													

Table 29

Table 29. Expression Data for 24 Hour Timepoint (1)													
Compound-Dose (2)	CIS 10	CIS 10	CIS 10	ANIT 60	ANIT 60	ANIT 60	BRB 200	BRB 200	BRB 200	BRB 200	BRB 200	BRB 200	BRB 200
Animal Number (3)	334	335	336	1654	1655	1656	2346	2347	2348	2349	2350	2351	2352
Liver Toxicity Inflammation Classification (4)	no	no	no	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both
Gene Name (5)													
Gamma-actin, cytoplasmic	0.82724625	0.5751058	0.87052247	2.8152804	2.7005335	2.7833559	6.3413463	2.562591	0.8284848	4.1591353	3.7512927	3.3873024	2.8595161
Phase-1 RCT-145	0.98323213	1.0810103	0.97031736	1.4117402	1.32357	1.3734949	1.8164184	1.1103763	2.2340593	2.7501855	1.9597641	1.8462741	1.7534618
Gad64a	1.319409	1.3900798	1.0893646	2.088888	1.8500634	1.9202532	3.8164873	0.9420708	3.2171715	3.1520169	4.261273	2.9653523	2.030087
Phase-1 RCT-78	0.80739146	0.80461675	0.9871855	0.69513208	0.8470088	0.7892923	0.535191	0.7712095	0.8521541	0.5750227	0.6821078	0.6821078	0.5578156
Fas antigen	0.72530997	1.0626162	1.2617052	1.2617052	1.2617052	1.2617052	1.2617052	1.2617052	1.2617052	1.2617052	1.2617052	1.2617052	1.2617052
Macrophage inflammatory protein-2 alpha	4.758492	1.797091	2.160028	2.5375724	2.5458278	2.8080688	4.2951438	1.2404948	4.2951438	1.2404948	4.2951438	1.2404948	1.2404948
Integrin beta 1	0.8155761	0.8013365	0.895817	1.7162081	2.1971838	2.8080688	4.2951438	1.2404948	4.2951438	1.2404948	4.2951438	1.2404948	1.2404948
Phase-1 RCT-207	1.7326708	1.7344229	1.5803321	1.81586	1.3895681	1.3459651	2.037197	1.0707659	3.25217	3.825207	2.7535558	2.4841056	2.085857
Aspartate aminotransferase, mitochondrial	0.678668	0.8864292	1.1101393	0.855814	0.8053435	0.8680167	0.8782228	0.8246757	0.8782228	0.8246757	0.8782228	0.8246757	0.8782228
Caspase-1 alpha	1.5165948	1.2230343	0.829141	0.821519	0.8614838	0.82379186	0.71057268	0.8782228	0.82379186	0.71057268	0.8782228	0.82379186	0.71057268
Malic enzyme	1.1466739	0.7799951	0.71374005	0.7590175	0.98380524	0.82379186	0.71057268	0.8782228	0.82379186	0.71057268	0.8782228	0.82379186	0.71057268
Phase-1 RCT-30	1.1363116	0.8577605	1.1108592	0.8570477	0.8314422	0.99844305	0.7163424	0.7268091	1.0029058	0.9638081	1.0029058	0.9638081	1.0029058
Hepatocyte growth factor receptor	1.3883113	1.134005	1.276314	1.264822	1.3217827	1.2435211	0.78024155	0.7471187	1.0921427	1.1160478	1.319589	1.2237318	1.5831045
MAP kinase kinase	0.9004822	0.7756338	0.7947748	1.0744746	1.1940684	1.1272953	1.2697535	1.1657861	1.0921427	1.1160478	1.319589	1.2237318	1.5831045
Sodium/glucose cotransporter 1	1.0746789	0.7627008	1.7060462	0.8792983	0.5084593	0.949501	1.1770885	1.1405883	1.0597356	0.94781333	1.0942548	0.8082068	1.1837786
Phase-1 RCT-57	0.44558394	0.85865	0.7981597	0.5182551	0.48650972	1.2967833	1.3520487	1.4277927	1.5294075	0.5882016	1.5083017	1.934141	0.6958406
Phase-1 RCT-60	1.3159583	1.037804	0.8177524	1.5586743	2.7248265	2.7353585	1.8680739	0.8449889	3.9774753	2.437746	2.5875708	1.703701	1.7924391
Phase-1 RCT-182	1.1504003	1.0868511	1.3035669	1.1743883	0.8589591	1.0033983	1.3094614	1.2500607	1.696408	1.830081	1.8659958	1.4533955	2.7869356
Phase-1 RCT-288	0.57971936	0.5884734	0.8905542	0.40367845	0.48828462	0.45742106	0.3955631	1.013478	0.3955631	1.013478	0.3955631	1.013478	0.3955631
Organic cation transporter 3	0.96289814	0.9381509	0.92557613	1.3428649	1.183398	1.3100312	1.2409188	0.9572428	1.2238449	1.8380086	1.7192701	1.2858841	2.2302079
60S ribosomal protein L6	0.8732908	1.0270381	0.9957632	1.3241475	1.789474	1.3818914	2.082782	1.6285983	1.941105	2.269584	2.1275542	1.6857665	2.9744898
Zinc finger protein	0.9822273	1.1477885	1.0847522	2.4483747	2.377706	2.870814	0.8659578	0.8659578	3.728336	3.35518	2.1827803	2.0758442	1.6981394
Calgranulin B2	1.08289	0.91715175	0.9483787	0.78372014	0.8935026	0.837815	0.837815	0.837815	0.837815	0.837815	0.837815	0.837815	0.837815
ID-1	1.0556043	1.1348583	1.117049	1.8451518	1.6511902	1.7284788	1.899624	1.2480067	1.7147872	1.4837141	1.3515973	1.4935055	1.7147959
Phase-1 RCT-92	0.73558768	0.708887	1.3046607	0.46910748	0.3674097	0.5628777	0.5270888	1.0341121	0.48971674	0.4760963	0.6497421	0.7002124	0.3006593
Phase-1 RCT-115	1.4457804	1.4248437	0.92141503	1.3287489	1.6963397	1.1894824	0.8159624	0.717528	0.9708338	1.179287	1.8978424	1.1670513	2.151158
Marlin Fg	1.2457743	1.2053122	0.96242108	0.88921053	0.668238	0.57440174	0.65455997	0.8886663	0.6347824	0.4314714	0.42854224	0.6078947	0.5748441
Multi. homologue (MLH1)	1.3327518	1.1592891	1.4195013	1.0181028	1.091339	1.0201291	0.8951369	1.0802329	0.9551917	1.5488919	1.3104577	1.5085807	1.9360488
Phase-1 RCT-78	1.0160297	0.76590876	0.84906113	1.0154307	1.1803983	0.7286816	1.0294048	1.4680339	0.9551917	1.5488919	1.3104577	1.5085807	1.9360488
Sorbitol dehydrogenase	1.4122272	1.4245683	1.1174327	0.81675893	1.3844216	1.222949	1.9458537	1.4901353	2.4472191	2.4256164	2.4019794	2.3283994	2.9543788
Phase-1 RCT-24	0.611354	0.63810494	0.8955221	1.2869356	1.3844216	1.1949037	0.87388988	0.9632242	0.9602715	1.2659063	1.837451	1.0221102	1.1501548
Calgranulin B1	1.0161464	0.78419423	0.94898456	0.9838174	0.969837	1.1949037	0.87388988	0.9632242	0.9602715	1.2659063	1.837451	1.0221102	1.1501548
Elongation factor-1 alpha	0.8224857	0.8913723	1.4793574	1.0457118	0.84095335	0.93035835	2.0641768	1.727828	0.20965223	0.30381003	0.32599437	0.35245144	0.28735882
L-gulon-gamma-lactone oxidase	0.39338544	0.39400756	0.6007522	0.3178154	0.3028709	0.4732975	0.2873403	0.72025126	0.89758654	0.56327516	0.5758684	0.48241082	0.35245144
Phase-1 RCT-33	0.55568293	0.59998134	0.61284256	0.5178238	0.47198238	0.55167465	0.42701989	0.3747322	0.45002155	0.89758654	0.56327516	0.5758684	0.48241082
C-Jun	1.8328888	3.097618	1.2180735	4.1824727	6.8412016	2.478183	1.81839	1.494286	2.2417485	1.1658922	1.7824228	1.683729	2.5113218
Phase-1 RCT-233	0.80128685	0.6078753	1.3382627	0.4188262	0.47808117	0.42352288	0.7404132	1.037389	0.651866	0.7007074	0.6315164	0.7024854	0.37081706
Phase-1 RCT-38	0.8738113	0.8501622	0.73135525	0.72868105	0.7008768	0.77246898	0.72325546	0.70816394	0.83028054	0.8444893	0.73591244	0.7781704	0.63819146
Phase-1 RCT-242	1.0456808	1.8994325	0.95127898	2.1078826	3.7647943	2.0941517	0.83741196	0.81553845	1.6892388	1.250377	1.1579976	1.1252191	2.257814
Phase-1 RCT-181	0.91456807	0.94100505	0.8288927	0.8045128	0.8001847	0.8490373	0.89324194	0.99871664	0.8526776	0.98404217	0.8573403	0.8822259	0.5870315
Phase-1 RCT-185	0.5725222	0.6217701	1.1922991	0.969664	0.8588951	0.90190886	1.0430269	1.2187815	0.8018344	0.47457785	0.52308416	0.38237723	0.316563
Phase-1 RCT-179	0.73895875	0.76473	1.0310801	1.3052446	0.96900594	1.0877058	2.877741	1.9603219	3.243633	3.810576	3.8206627	2.7537687	3.016563
Phase-1 RCT-144	0.85562935	0.87015766	0.84756837	1.2582926	1.1897288	1.1897288	2.5236042	1.9787795	3.783733	3.0924978	2.98777	2.1053884	2.677083
Uls-a	0.8643733	0.8379037	1.2738705	1.2784944	0.9227232	1.1590693	2.5236042	1.9787795	3.783733	3.0924978	2.98777	2.1053884	2.677083
Phase-1 RCT-225	1.1933867	0.8403325	0.70913663	1.028184	1.131828	1.3423305	3.0576728	1.4804069	6.0768406	5.606353	2.5713568	2.0740738	5.27724
60S ribosomal protein L6 (alternate clone 1)	1.2395573	1.0734788	1.0681065	1.2078928	1.0232292	1.2886127	2.9642246	2.14053	2.3583334	2.3985628	2.6032488	1.912428	2.881203
Beta-tubulin, class I	0.8266044	0.8217132	1.1047288	1.2549764	1.4095595	1.1703591	2.8676942	1.7822840	2.3386888	2.2925693	2.1714432	1.9644219	4.3570747
Multidrug resistant protein-2	2.9246273	4.7353415	2.4912171	4.008009	3.4536848	3.7578992	1.8614948	1.7608433	1.9666137	1.391584	1.5418801	1.4478699	3.4459193

Table 29

Phase-1 RCT-49	1.1182084	0.9792716	0.8867833	0.87245187	1.035773	1	1.5863192	0.7475788	2.3540325	2.4778747	2.0622022	1.6578346	2.4883013
Calgranulin B3	1.1003022	1.1370479	0.89228941	1.50184	1.2385951	1.2331116	1.467437	1.0596248	1.3875842	2.020875	2.3159852	1.6054727	1.988444
NAADP-dependent isocitrate dehydrogenase, cytosolic	0.7624885	0.78037585	1.2077081	0.53553915	0.5181257	0.59741026	0.9045047	1.254471	0.74175125	0.99455893	0.8947122	0.94610473	0.6104474
Oxanthen binding protein 1	1.3134217	0.8211289	1.4562215	0.68122375	0.60714346	0.6210288	1.0400398	1.1157578	0.9110788	0.87177724	0.99048145	1.0848467	0.68059373
Sodium/bile acid cotransporter	0.47047058	0.59058944	1.4244578	0.60215557	0.50584453	0.904769	0.3977225	0.8805587	0.51537305	0.9747214	0.4255522	0.51129407	0.28780095
Phase-1 RCT-174	0.9664532	1.0937285	1.3871135	0.7177459	0.677860254	0.7639064	0.8841745	1.0575416	1.3206568	0.97360873	0.9023736	0.9681456	0.7262499
Phase-1 RCT-77	0.8301803	1.0917418	1.7078668	0.6251808	0.63231564	0.706846	1.5235044	1.6472551	1.0965007	1.2592529	0.9888294	0.8693043	0.5568437
Inositol polyphosphate multikinase (Imk)A	0.5931497	0.63649786	1.3715794	0.32751185	0.43681888	0.82328914	0.3030628	1.0724578	0.43481938	0.35463187	0.48989893	0.35428378	0.20870742
Phase-1 RCT-258	0.8253275	0.5855819	1.117219	0.46388495	0.36054885	0.5427848	0.3659282	1.1538446	0.32813323	0.41955167	0.35265092	0.63324123	0.3324123
Equilibrative ribonucleoside/nucleoside-sensitive nucleoside transporter	0.7282129	0.67893296	0.97185626	0.35035287	0.52882596	0.43334824	0.6318314	1.0943241	0.3283659	0.3405506	0.4673865	0.37531725	0.31350487
CDK102	0.8621907	0.8295851	1.1030744	0.6858315	0.67649615	0.73548314	0.82130446	1.2718744	0.8015408	0.9884693	0.97662865	0.95824105	0.8625149
Phase-1 RCT-209	1.2057533	1.2458827	1.185327	0.7443172	0.731328	0.7564657	0.7844577	1.3984416	0.8111028	0.7057985	0.7050434	0.8159617	0.8159617
NAADH-cytochrome b5 reductase	0.6626566	0.49780124	1.082288	0.5972813	0.56891495	0.58769425	0.8916843	1.3945558	0.9214932	0.78215777	0.88108854	0.5210772	0.5210772
Dynactin-1 (D100)	0.8961323	0.8578891	1.1988286	0.5147045	0.57586586	0.48753195	0.80530628	0.78345024	0.82626276	0.72656586	0.72374793	0.765397	0.43728826
Senescence marker protein-30	0.35119078	0.42046997	0.97195846	0.25518104	0.52595073	0.4065528	0.23637104	0.88449024	0.17860238	0.13974327	0.16460176	0.14743981	0.20571841
Phase-1 RCT-59	0.5203279	0.6633486	0.9368178	0.6430527	0.6246479	0.7949564	0.44149335	1.1624897	0.41385886	0.45435837	0.46197036	0.7722805	0.4605808
Carbamate palmitoyl-CoA transferase	1.8895964	2.1012914	0.77543306	0.86571335	0.8531335	1.5787827	1.0866745	0.8222068	1.0019151	1.1555865	1.1210735	1.3581136	0.26876524
Alpha-2-microglobulin	0.5910115	0.54483575	1.4181739	0.4604284	0.94219047	0.7017523	1.0436484	0.52861	0.50705976	0.839102	0.81549777	0.10907748	0.10907748
Apolipoprotein CIII	1.0711987	0.82422244	0.8121739	0.81206334	0.712142	0.78302844	0.89976235	1.1259628	0.70069094	0.743871	0.6846948	0.70714283	0.3838603
Cathepsin L, sequence 2	1.4807463	1.68776073	1.4350459	1.7213274	1.6381568	2.283308	0.890137	1.5487506	2.3439303	3.4439734	2.803804	1.9413538	4.7689605
Phase-1 RCT-141	1.9543427	2.1604865	1.709181	2.3369281	2.9470577	3.0634582	1.7803478	1.0156726	1.4785526	1.1072306	0.85750386	0.8017688	1.2314003
Phase-1 RCT-289	0.5395202	0.581988	1.1524754	0.7675606	0.5714473	0.7585782	0.68220674	1.0586882	0.5900754	0.70885414	0.7281247	0.7573724	0.5913611
Endothelin-1	1.5004412	1.3089897	1.1088061	1.2859665	1.0692094	1.0565359	0.8907501	0.8709467	1.0019877	0.9525998	0.90931328	0.98721604	0.7728094
Phase-1 RCT-282	1.1136884	1.0339316	0.8278547	0.8470797	1.009086	1.0034198	0.96840954	1.07666413	1.0352368	1.0632458	1.2452167	1.0389762	0.93394643
Phase-1 RCT-140	1.1169554	1.0511598	0.84402597	1.1127888	1.1242876	1.011963	0.838052	0.880253	0.8917811	1	0.8888165	1.0624235	1.0392525
Cyclin D1	0.9935063	0.68191048	0.7335393	0.92351407	0.8928187	1.0761143	1.1174494	0.86544216	0.6917542	0.7518088	0.7324122	0.628155	0.5708023
Phase-1 RCT-287	1.174107	1.1777421	1.0009078	0.7108283	0.87767171	0.8767171	0.8528089	1.1751582	0.7532035	0.92518243	0.90863614	0.886267	0.84824146
Phase-1 RCT-281	0.7502195	0.89730557	0.89213085	0.6828455	0.8672268	0.7514787	1.0822211	1.230714	1.0685341	1.0504535	1.0633781	0.8188	0.91731733
Radical-binding protein (RBP)	0.808548	1.0028935	1.503229	0.8148893	0.5737324	0.7143284	1.124187	1.5494044	1.3389812	1.124187	1.3389812	1.6813	0.4144254
ATP-stimulated guanylate cyclase	0.81455657	1.0149196	0.88836555	0.37233856	0.50895286	0.4642828	0.5450825	0.9718005	0.613031	0.87895246	0.8218793	0.7020686	0.8404624
translocation promoter (GK)	0.8640484	0.888075	0.77254635	1.6288269	1.8332595	2.0561283	1.4586786	1.008503	2.05471	2.4060385	2.0210497	1.6777257	2.0340074
Phase-1 RCT-60	1.0308839	0.8119378	1.0635122	1.5084109	1.4707555	1.4259942	1.8135168	1.1696442	1.775379	0.894228	1.06112	0.9770695	3.638586
Pyruvate kinase, muscle	0.9423729	0.92369246	0.8311345	1.3840002	1.2157574	1.1188193	2.294099	1.2070475	2.9892342	3.5541978	2.9892342	2.3367791	1.735508
PAR interacting protein	1.252927	1.139818	1.7035284	1.0977099	1.248486	1.2140932	1.8620404	1.5043029	1.5408747	1.5864394	1.4057313	1.1744483	3.0686514
Nucleoside diphosphate kinase beta isoform	0.2146459	0.4633918	0.90073943	0.20210876	0.50632894	0.38339978	0.2617291	0.9447864	0.19364727	0.24691275	0.3123144	0.1862834	0.19159725
Gadd153	1.4060813	1.4889789	1.5081395	0.8947383	1.3535042	0.8194473	0.46788185	0.87968206	0.28470257	0.27040897	0.3073088	0.31013359	0.5197132
Insulin-like growth factor binding protein 1	0.7644351	1.0143507	1.32057	1.8059208	2.2281928	2.4912002	0.64358	1.353118	3.555229	2.3578340	2.3525052	1.9197916	2.908188
c-H-ras	1.1660878	0.9425293	1.2545226	1.5805224	1.3348665	1.3178317	1.3103396	1.3002611	1.3089608	1.2833016	1.242251	1.0674042	1.833201
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	0.25968948	0.30078533	0.71339565	0.63874376	0.7803692	0.8194473	0.46788185	0.87968206	0.28470257	0.27040897	0.3073088	0.31013359	0.5197132
Alpha 1 - inhibitor II	0.4164851	0.3011211	0.70792437	0.41671333	0.3835373	0.400532	0.5751943	0.78830475	0.35475832	0.47378162	0.41407878	0.3248823	0.22211233
Sterol carrier protein 2	0.74162906	0.7457044	1.345368	0.6285137	0.6285137	0.8007319	0.6285137	0.39875356	0.5690968	0.76071554	0.76071554	0.76071554	0.5257251
Organic anion transporter 3	0.8531905	0.68398256	0.8307485	0.759185	0.64281665	0.46031368	0.5586534	0.8209532	0.6551391	0.67153054	0.5793031	0.5761443	0.6053328
Calgranulin B4	0.43492752	0.40555024	0.9692238	0.6796362	0.7879437	0.950311	0.41914585	0.7327386	0.3835465	0.348278	0.4672513	0.46689403	0.3932869
Phase-1 RCT-182	0.75378654	0.77546906	1.0924189	0.55212575	0.6272612	0.55798453	1.3480315	1.3008316	0.6879845	0.5041409	0.56002678	0.6572339	0.35878553
Calgranulin B8	0.7863507	0.81422806	0.9411978	0.58851874	0.5584183	0.5879893	0.89428845	1.2580341	0.76555914	0.5365859	0.85881294	0.7053089	0.4902847
Aldehyde dehydrogenase, microsomal	0.9708295	0.7869003	0.7875258	0.9086032	0.603242	0.9248651	0.60927828	1.0701761	0.6195232	0.7377977	0.721162	0.8002882	0.5509729
Phase-1 RCT-128	0.5201788	0.5982282	1.6249751	0.40784308	0.45241985	0.33822552	0.8250362	1.3068181	0.935165	0.935165	0.935165	0.935165	0.30946514
Phase-1 RCT-102	0.24672818	0.30895128	0.814785	0.30324045	0.4686673	0.24200536	0.46807826	0.74130897	0.38475808	0.38475808	0.45720765	0.9002583	0.32243782
Preprolactin, sequence 2	0.56628174	0.5417234	1.1031971	0.58490517	0.52840793	0.64561707	0.9973844	1.1886702	0.6500585	0.6500585	0.6500585	0.6500585	0.3077183
Apollipoprotein AII	0.27780518	0.2721711	0.70916295	1.1609181	1.8395122	0.7124378	0.32278322	1.2917772	0.680321	0.680321	0.680321	0.680321	0.23868735
Phase-1 RCT-10	0.71665937	0.57093925	1.2089154	0.7165137	0.7418044	0.78527028	0.9269321	1.2917772	0.680321	0.680321	0.680321	0.680321	0.4317042
Phase-1 RCT-48	0.58659154	0.57914968	1.3059179	0.6044615	0.7098151	1.1764657	0.6369906	0.6170235	0.5369906	0.5369906	0.5369906	0.5369906	0.98030245
Phase-1 RCT-5	0.0092162	0.5473289	1.1130717	0.59027046	0.53691375	0.665804	1.0729198	1.2563145	0.6573876	0.5570844	0.6624657	0.5898647	0.31238207

Table 20

Phase-1 RCT-168	0.88942603	0.61384875	0.780075	0.83954526	0.95003855	0.9666907	0.6370572	0.7508564	0.56848976	0.84724916	0.73338683	0.75185984	0.4996205
Phase-1 RCT-168	1.1277387	1.2653413	1.1938217	0.7571328	0.7798724	0.7127862	0.7508564	0.8397247	0.56848976	0.84724916	0.73338683	0.75185984	0.4996205
Beta-alanine synthase	0.6866589	0.762808	0.20240061	0.6955008	0.7742554	0.4035312	1.047875	0.3752797	0.30562583	0.3478387	0.4245721	0.44667837	
Carbonic anhydrase III	0.23183629	0.24507588	0.127679	0.2762675	0.1316188	0.08735155	0.2614938	0.1095242	0.19910686	0.73462397	0.06721065	0.035843502	0.0525847
Phase-1 RCT-291	0.93523055	0.9601221	1.1965943	0.4497268	0.357257	0.49651492	0.8212821	2.1835914	0.8647844	0.1351714	0.6633093	0.7202031	0.656074
Carbonic anhydrase III, sequence 2	0.6009888	1.1000228	1.6845252	0.51316696	0.41188188	0.87846345	0.3621281	0.9659761	0.32768246	0.30891539	0.8220552	0.6733743	0.9138132
HMG-CoA synthase, mitochondrial	0.8425588	0.44631323	1.1051266	0.61027616	0.5468598	0.46295538	0.3745906	0.9659761	0.32768246	0.30891539	0.8220552	0.6733743	0.9138132
Phase-1 RCT-271	2.339676	1.8755138	0.733267	0.90491895	0.5611306	0.74579227	0.806438	1.252334	0.4051631	0.68021877	0.5071123	0.42860075	0.67716044
Phase-1 RCT-169	0.800868	0.7702052	1.0808842	0.63907636	0.8485933	0.6801832	0.806438	0.97497004	0.5519787	0.3470025	0.49515325	0.44501283	0.7595103
Phase-1 RCT-40	0.5244213	0.7598361	1.1957812	0.5076305	0.7872815	0.5956453	0.59641576	1.161041	0.191533	0.29252568	0.4118476	0.24558525	0.263981
Ureapyl protein 2 precursor	0.456527	0.6231172	2.144793	0.42498216	0.52659024	0.5540678	0.42418185	1.1981533	0.29252568	0.4118476	0.24558525	0.263981	0.263981
Phosphatase 1	0.4450428	0.5490457	1.2321823	0.47113988	0.50810805	0.5347782	0.82349455	0.658992166	0.2431244	0.20579734	0.2633798	0.27074984	0.2655552
Low faty acid binding protein	0.2922781	0.30979812	0.74774828	0.4855508	0.4626451	0.50700023	0.21133999	0.639992166	0.2431244	0.20579734	0.2633798	0.27074984	0.2655552
Presenilin-1	0.41509038	0.37258005	0.7263787	0.4922102	0.404816	0.4484522	0.3941431	0.9017057	0.3378932	0.4661287	0.4047977	0.332619	0.2488283
Phase-1 RCT-38	0.8243151	0.61808907	1.1083168	0.43845156	0.33386896	0.5591687	0.3181279	1.105129	0.26014477	0.42965265	0.40238777	0.4536689	0.58712083
Phase-1 RCT-270	0.7985225	0.6304899	0.84833825	0.4151413	0.3597099	0.36337128	0.55158484	1.298134	0.4058925	0.4775945	0.44383696	0.4775945	0.18504375
Transferrin	0.5614568	0.5726632	1.2983193	0.20637532	0.35337764	0.42804995	0.51796484	0.8745777	0.32180974	0.2732224	0.3988705	0.5260442	0.80894524
Hepatic lipase	0.27895135	0.40866988	0.7395955	0.4280441	0.5239854	0.52642244	0.59688135	0.6298997	0.39374915	0.4584684	0.4118915	0.39527565	0.29031632
Cytochrome P450 11A1	0.87542194	0.6473064	1.2280852	0.66910728	0.57321656	0.5304675	1.0213698	1.019282	0.7014307	0.7437483	0.5238848	0.5964308	0.68596255
Phase-1 RCT-162	0.9883237	0.9883237	1.2797965	1.2765568	1.298122	1.4524632	1.9570873	1.5423272	2.1089527	2.1089527	1.76194202	1.440473	2.1049293
14-3-3 zeta	0.84973717	0.91038543	1.1311103	1.565919	1.8138217	1.4153996	1.4153996	1.9239016	1.9239016	1.9239016	1.9239016	1.9239016	1.9239016
Cytochrome P450 2C23	0.9379789	0.67746323	0.8916667	0.8462769	0.70112844	0.8916667	0.8916667	0.85602	0.50918937	0.39393038	0.29726845	0.34839244	0.20871652
Voltage-dependent anion channel 2 (Vdac2)	1.0130697	0.92129904	1.143048	0.88797784	0.81729585	0.9300347	2.141201	1.9448859	1.9158632	1.7600443	2.0645165	1.5187922	2.1099297
Phase-1 RCT-154	2.6589885	2.5475147	2.2485664	1.0981405	1.0714875	0.9985927	1.123611	1.3041165	1.4508433	1.4508433	1.4508433	1.4508433	1.4508433
Superoxide dismutase Mn	1.2139889	1.0029622	1.3913771	2.3443198	1.9280921	2.414591	2.6753087	3.0746365	1.6398455	1.6398455	1.6398455	1.6398455	1.6398455
c-myc	1.8824652	1.4593872	0.919277	2.6966334	1.8458204	2.0439997	2.472981	1.142286	2.9808804	3.041558	2.5274923	1.8033915	2.5014287
Phase-1 RCT-196	0.9698325	0.9596937	0.91081755	1.400642	1.7646747	1.7943101	1.5309744	0.9701351	1.6944677	2.087976	1.6561388	1.5366271	1.655904
Cyclin G	4.177021	5.5452768	3.021787	1.4286355	1.6611838	1.6551875	2.8484336	1.0317868	1.7417202	1.8202311	1.857407	1.29541	4.071453
Calgranulin B5	1.1411692	1.1041021	0.9243209	1.1742665	1.2959218	1.928128	0.861967	0.8774201	1.5793187	1.699248	1.454901	1.35458	2.3546832
PS	0.4076869	0.7704953	1.0029769	1.3007476	1.3882684	1.1080066	1.4482548	1.1330048	1.7004056	1.4421312	1.3625181	1.1612202	1.2768244
Phase-1 RCT-205	1.0723933	0.9298308	0.7696966	1.500363	1.4831738	1.3163437	1.3004432	0.817663	2.0407875	1.553151	1.5094589	1.3233093	1.6625992
Phase-1 RCT-68	1.2578983	0.8270594	1.0409066	1.3884143	1.7814782	1.8969999	0.8540335	0.8624649	1.1751412	1.0810413	1.3384063	1.4362706	1.1101416
Caspase 3	0.9220621	0.6792287	0.87771648	1.5726333	1.6561137	1.527057	1.5806142	1.0930152	1.4924905	1.5695746	1.3053133	1.3978193	2.2152287
Ribosomal protein L13A	0.7975397	0.7694706	0.96883765	1.2558315	0.8857353	1.0597126	2.0141196	1.8109642	2.098743	2.6289235	2.7699235	2.030684	2.5460844
IgE binding protein	1.2889701	1.2985214	0.87521744	1.1841584	1.1343346	0.95208037	1.4561076	1.4163593	3.1583354	1.3620456	1.3220665	1.097769	3.1056318
Phase-1 RCT-39	1.0494285	0.9993994	0.77314585	1.394147	1.735472	1.2928806	1.2794008	0.9004854	2.638804	2.8351072	2.6319288	1.769312	1.52941
Heme oxygenase	1.1655151	1.1505121	1.1726911	1.1345875	0.9967066	1.1302248	1.2734272	1.4714108	15.024095	17.7012	19.530851	12.751945	2.906816
Phase-1 RCT-241	1.0008491	0.7658498	0.7037601	1.479942	2.1035345	1.8073334	12.234272	0.6758043	2.5944228	2.0846885	1.1284157	1.1660014	1.4213411
Ribosomal protein S9	0.9522787	1.3712897	0.922286	2.4354577	2.2945816	1.9338869	0.0369186	0.8758043	1.5436881	1.866477	1.4525287	1.3470937	2.0795555
Argininosuccinate lyase	0.9606846	1.0502334	1.432359	1.3421640	0.84159815	1.244653	1.820619	1.2715254	1.6418757	1.6499089	1.3595353	1.3581933	1.2598491
Phase-1 RCT-180	2.097388	1.534673	0.5514495	1.4018197	1.0694113	1.471878	2.651008	1.7840364	2.1451428	2.2517676	2.6117766	1.8681912	1.428127
Multidrug resistant protein-1	5.2112846	6.0054928	2.7571132	3.6975641	3.1814823	3.4660316	0.6573524	1.4680816	2.0744915	1.8355577	2.0215464	1.461566	2.871373
Ominine decarboxylase	1.3385344	1.0872822	0.7047622	1.8478767	1.6830907	1.8265781	1.7621648	1.4680816	2.287528	2.9204388	2.9021356	2.0043025	2.247151
Thymine beta-10	1.0044553	0.8322678	0.9684791	1.2212476	1.057881	0.9687337	1.3212045	1.3671318	1.3729103	1.1893088	1.4580045	1.2779149	2.508771
Phase-1 RCT-72	1.1017557	0.8191091	0.9384059	1.0519286	1.2353019	1.1354774	1.0791714	0.8669586	1.4422833	1.4730872	2.1088998	2.334362	2.508771
Phase-1 RCT-109	0.8795327	0.8433956	0.9243865	1.541326	0.974038	1.113037	1.8951125	1.6514163	2.259689	2.7550473	2.6292863	2.1088998	2.334362
Phase-1 RCT-76	0.7557179	0.83915955	0.82887006	1.029672	1.1210349	1.003859	1.360445	1.3013035	1.301358	1.279387	1.2883135	0.98723908	
Vacuole membrane protein 1	1.0284852	1.338311	1.3594483	1.5726961	1.1807325	1.5724632	2.3771183	2.1515354	2.1051927	1.699374	1.5229895	1.1200678	1.3528583

Phase-1 RCT-158	1.228285	1.470488	1.2454925	1.3568641	1.2171707	4.1736364	0.82038677	8.2314205	8.105554	5.480545	3.1531248	1.098789
Phase-1 RCT-113	1.1948328	1.6234461	1.4817379	1.4816358	1.7254816	1.571515	0.94697326	1.5401126	1.2205116	1.0894811	1.0139832	1.0570803
Endogenous retroviral sequence, 5' and 3'	0.8274848	0.7270998	0.97860044	0.8818609	1.0033388	1.0850494	1.8541503	1.6862102	2.8876267	1.482342	1.0769471	2.8507914
LTR	0.54385413	0.50408936	0.897674	1.3863703	1.3947511	1.1259688	2.485753	1.8162844	1.7813828	1.4456868	1.3981987	2.4132357
Beta-actin	1.7487537	1.530548	0.885216	1.3543745	1.6250447	1.3190268	1.7058478	1.2296528	1.8551998	1.3086895	1.6728485	1.4601291
Phase-1 RCT-65	3.8330574	2.383897	1.0468664	1.5891622	2.008862	1.3200445	1.4085083	1.2865089	1.8331797	1.8504945	1.8078386	1.792557
MHC class I antigen RT1.A1(0) alpha-chain	1.1118253	1.1582731	1.5687136	1.3595716	1.5977923	1.2590659	1.53816	1.4138767	1.3273505	1.5367341	1.7119684	1.3536209
Bax (alpha)	1.2957275	1.2126508	0.9466308	1.331848	1.2850934	1.2493375	1.6782226	0.9540068	1.3749789	1.6393505	1.494583	1.2750872
Carbonyl reductase	0.82233765	0.468573	0.7081435	1.1774303	1.1707488	1.0415404	1.7415736	1.7199182	1.787293	1.225512	1.0958151	1.483302
Beta-actin, sequence 2	1.353408	1.428408	0.82039054	1.5953307	1.5524945	1.383978	1.7098858	1.452765	1.084544	1.2539866	1.3240098	1.6553152
Interleukin-10	2.2785156	2.0367167	0.7249804	1.6250434	1.38287	1.5593768	1.728489	1.307535	2.139248	3.0595724	2.43825	2.0818464
Phase-1 RCT-191	0.800823	0.87229455	0.7785304	0.91501768	1.0621802	1.1543021	1.491869	1.431657	1.3088089	1.3013914	1.3594732	1.1032851
Phase-1 RCT-111	0.6965337	0.80748713	1.8243801	0.45386332	0.5188617	0.5167759	0.6420245	0.82760887	0.55070424	0.5024908	0.5406568	0.54678875
Apoptosis-regulating basic protein	0.5432186	0.6389549	1.473828	0.42614537	0.5171598	0.50896635	0.396884	1.030532	0.3955971	0.34868202	0.3361981	0.33522188
Glutathione peroxidase	1.8452631	1.1058224	0.7785404	0.9437185	0.7811502	0.8346975	0.81689316	0.8075849	0.81294305	0.8699969	0.8080049	0.8304109
Phase-1 RCT-67	1.131646	1.1312853	0.87406278	0.9106559	0.95812637	0.6568035	0.701942	0.8015556	0.7411042	0.78744817	0.7019942	0.8123235
Tryptophan hydroxylase	0.9738195	0.8593259	1.370575	0.54846334	0.6568035	0.41791013	0.6859677	1.1318385	0.6822733	0.6822733	0.76186517	0.7189387
Sulfotransferase K2	0.3182894	0.35529198	0.5096699	0.41571143	0.538128	0.7610768	0.7578884	0.94362116	0.8130513	0.8822733	0.8550161	0.88235295
Cellularin B9	0.96477884	0.9421174	0.89862454	0.6885725	0.70754033	0.902762	0.7578884	0.6827516	0.8648182	0.8401846	0.8282055	0.80784056
Cellularin B9	1.366702	1.2180126	0.88251677	0.8956644	0.902762	0.905902	0.7578884	0.6827516	0.8648182	0.8401846	0.8282055	0.80784056
Phase-1 RCT-123	1.4030994	1.1869816	0.8492396	0.89839568	0.894152	0.9251953	0.7560144	0.6710882	0.854355	0.85351336	0.869453	0.73713285
Phase-1 RCT-48	1.488509	1.1874985	0.88644546	0.8900887	0.91774483	0.8851464	0.75933754	0.6954355	0.85351336	0.869453	0.869453	0.73713285
Aquaporin-3 (AQP3)	0.059449384	0.030466117	0.3952838	0.15304867	0.20277213	0.22490351	0.15694514	0.21818892	0.1239031	0.09480253	0.10421697	0.09173717
Stearyl-CoA desaturase, liver	0.563944	0.49990262	0.78716505	0.57445437	1.1255088	0.8442548	0.63704973	0.80610037	0.6228832	0.7098378	0.7273017	0.7294386
Phase-1 RCT-64												
(1) Gene expression data for 24 hour												
timepoint are presented as mean ratio of												
treatment/control for all 24 hour predictive												
genes (Table 5).												
(2) Compound and dose abbreviations as in												
Table 1.												
(3) Individual animal number												
(4) Liver inflammation classification for												
compound-dose group at 72 hr: yes=next,												
necrosis observed; yes=both, necrosis with												
inflammation observed; no, no histopathology												
observed												
(5) Predictive gene (as in Table 5 and as												
included in Table 26)												

Table 29

Table 28. Expression Data for 24 Hour Timepoint (1)																
Compound-Dose (2)	Animal Number (3)	Liver Toxicity Inflammation Classification (4)	Gene Name (5)	CCL4 1000 2055	CCL4 1000 2056	DMN 20 1754	DMN 20 1755	DMN 20 1756	LPS 8 354	LPS 8 355	LPS 8 356	MET 1.3 224	MET 5 235	MET 5 236	NAL 45 2644	NAL 45 2645
Gamma-actin, cytoplasmic	3.0457294	3.9200022	2.1755028	2.3550645	1.820712	6.400891	1.7433478	0.59216034	1.5311049	0.9793918	1.124224	0.9793918	1.124224	0.9793918	1.124224	1.1122547
Phase-1 RCT-145	1.9848301	1.7550785	1.34305	1.341065	1.2710166	1.570329	1.0256766	1.3741124	1.0645938	1.0432778	0.82985655	1.0432778	0.82985655	1.0432778	0.82985655	0.82985655
Gad645	4.1851983	1.8416984	2.0483975	2.1846487	2.416181	2.7723455	1.1335245	1.0902935	1.1733235	0.90633673	1.0286901	0.90633673	1.0286901	0.90633673	1.0286901	0.8624209
Phase-1 RCT-78	0.5866493	0.9191337	0.6978997	0.7401357	0.7713956	0.96960117	0.7713956	0.96960117	0.7713956	0.96960117	0.7713956	0.96960117	0.7713956	0.96960117	0.7713956	1.006592
Fas antigen	2.001362	3.0729573	1.6169696	1.5319164	1.489537	2.259034	2.3735297	1.9502044	1.3501759	0.941769	0.9161348	0.941769	0.9161348	0.941769	0.9161348	1.0706286
Macrophage inflammatory protein-2 alpha	4.3023236	4.181334	5.5702376	3.9283495	4.77772	3.9283495	4.77772	3.9283495	4.77772	3.9283495	4.77772	3.9283495	4.77772	3.9283495	4.77772	0.84166205
Integrin beta1	5.1019516	3.8175101	1.573644	1.4826477	1.8222693	2.8472126	1.6182631	1.9419613	0.8301882	1.1922711	0.94566135	0.93716073	0.94566135	0.93716073	0.94566135	0.9087053
Phase-1 RCT-207	2.323234	2.062178	4.962027	5.8372107	4.231134	2.3718715	1.6958535	1.5759715	1.3956457	1.114728	0.8435023	0.8303126	0.8435023	0.8303126	1.0156746	1.158746
Aspartate aminotransferase, mitochondrial	0.7174555	0.84036934	0.8976922	0.7830575	0.7425922	0.8082463	0.9271775	0.9002244	1.218048	0.8854588	1.0042588	1.222715	0.8854588	1.0042588	1.222715	1.1398856
Casimir-alpha	1.0056681	0.8711376	0.8794668	0.9016733	0.8956475	0.8201881	0.8578128	0.89424715	1.791035	1.5352737	1.1228624	0.94469184	1.5352737	1.1228624	0.94469184	0.81129926
Malic enzyme	1.1382632	1.0568672	0.633715	0.63081396	0.55756834	0.26174328	0.2699147	0.28341085	0.9578906	1.3793742	1.2358318	0.9792882	1.3793742	1.2358318	0.9792882	1.2057909
Phase-1 RCT-30	0.68412655	0.7910173	0.8815254	1.0278896	1.005078	0.5515331	0.5111718	1.1426599	1.532925	1.0183982	0.9781208	0.8994065	1.0183982	0.9781208	0.8994065	0.8573576
Hepatocyte growth factor receptor	1.0722193	0.8494952	1.1578555	0.932206	1.2575308	1.0810368	1.31309	0.95441865	1.804054	0.90882294	0.8976611	0.77105497	0.90882294	0.8976611	0.77105497	0.6648914
MAP kinase kinase	1.9316287	1.3715352	1.0449365	0.8797045	1.009818	1.800533	1.4160094	1.1958083	0.7913072	1.2038002	0.915712	0.9566995	1.2038002	0.915712	0.9566995	0.758714
Sodium/glucose cotransporter 1	1.0738842	0.9881488	0.57226338	0.76214784	0.9687112	1.8305595	2.1260047	1.7785423	0.31574163	0.43853625	0.73426133	0.31574163	0.43853625	0.73426133	0.31574163	0.8538274
Phase-1 RCT-27	0.911912	0.8068121	1.1970794	0.7666303	0.36844408	1.64343	1.6923594	0.9011685	0.47716838	0.710715	0.9122198	0.47716838	0.710715	0.9122198	0.47716838	0.87310946
Phase-1 RCT-50	2.380688	1.7364157	1.8440611	2.034157	2.052921	2.4425428	1.1325245	1.2060434	1.4390368	1.4134471	1.0527191	0.8135992	1.4134471	1.0527191	0.8135992	0.7986242
Phase-1 RCT-192	3.1902063	2.980057	1.4761972	1.4704692	1.5566491	1.0021596	1.355269	1.1878891	0.8176519	0.8787585	0.84885193	0.8959828	0.8787585	0.84885193	0.8959828	0.86741854
Phase-1 RCT-288	0.31864136	0.27191877	0.5253037	0.5078076	0.44922593	0.36814278	0.7276074	0.8314838	0.579473	0.80691106	0.53209704	1.2054805	0.80691106	0.53209704	1.2054805	1.1624815
Phase-1 RCT-37	2.3224966	2.2411325	1.2078261	1.2474034	1.2350766	1.3789408	1.4027018	1.3393437	0.8007371	0.8732634	1.0012033	1.0917883	0.8732634	1.0012033	1.0917883	1.0430442
Organic cation transporter 3	1.160059	3.1784884	1.645537	1.6556724	1.4823074	2.0862268	1.8236203	1.4894365	0.89041203	0.883478	0.8021241	1.0286256	0.883478	0.8021241	1.0286256	1.0891267
60S ribosomal protein L6	3.3645399	3.5781338	1.7731404	1.7175868	1.5630764	2.5147152	2.0606655	1.5468894	0.8501105	0.76210864	0.8744972	0.7157156	0.76210864	0.8744972	0.7157156	1.603794
Zinc finger protein	2.9117052	2.035537	2.262278	2.9955589	2.332278	4.254339	1.4791515	1.481987	1.3783421	1.0158045	0.8735506	0.9327642	1.0158045	0.8735506	0.9327642	0.8482391
Calgranulin B2	1.9173334	3.3789022	1.095947	1.19114	1.2617226	1.2527378	1.422857	0.69687194	1.3496708	1.3887678	1.2842237	0.80914277	1.3887678	1.2842237	0.80914277	0.8462718
ID-1	1.6168043	1.7759207	1.6622672	1.7349473	1.874152	1.9203006	1.7582398	2.066847	1.3496708	1.3887678	1.2842237	0.80914277	1.3887678	1.2842237	0.80914277	0.8462718
Phase-1 RCT-42	0.25694896	0.2166238	0.4548767	0.55762984	0.45955014	0.1824703	0.47880238	0.5462084	0.8068374	0.7851143	1.1521405	1.149176	0.7851143	1.1521405	1.149176	1.4315858
Phase-1 RCT-115	2.020877	2.3118594	1.2843409	1.3932277	1.4176856	1.6655559	1.401705	0.9285235	1.7185702	1.885687	1.9174366	0.5990665	1.885687	1.9174366	0.5990665	0.842437
Myelin FIG	0.4180168	0.42278603	0.8148238	0.6880309	0.6657567	0.36553124	0.7306065	0.688141	0.7306065	0.688141	0.7306065	0.688141	0.7306065	0.688141	0.7306065	0.8047169
Myelin basic protein (MLH1)	1.5023028	1.4554088	1.0671775	1.0746778	1.0790838	1.3494045	1.2551546	0.9936828	0.9444258	0.9465504	1.0084991	0.8818446	0.9465504	1.0084991	0.8818446	0.73816594
Phase-1 RCT-78	1.6893051	1.6808004	1.1245923	1.1238045	1.0110317	1.0291467	0.9545733	0.8635982	0.7979775	1.4463905	1.0084991	0.8818446	1.4463905	1.0084991	0.8818446	0.73816594
Sorbitol dehydrogenase	1.6782897	2.1032856	1.0653562	0.8518618	0.88888384	0.7225704	1.0474149	1.063	0.6905032	1.7906999	1.5186261	1.884128	0.6905032	1.7906999	1.5186261	0.89887553
Phase-1 RCT-81	2.949782	3.6622874	1.3749506	1.3549063	1.1601657	0.715387	0.7714485	0.6905032	1.7906999	1.5186261	1.884128	0.6905032	1.7906999	1.5186261	1.884128	0.89887553
Calgranulin B1	1.0675035	1.955545	1.1858847	1.2329136	1.316865	2.2977882	1.3973705	1.1562631	1.1562631	1.1562631	1.1562631	1.1562631	1.1562631	1.1562631	1.1562631	1.1562631
Elongation factor-1 alpha	3.4633143	3.0597136	1.2317096	1.1826849	1.0801109	1.4001268	1.5824631	0.7763927	1.021113	1.2034278	1.021113	1.2034278	1.021113	1.2034278	1.021113	1.1833915
L-glutathione gamma-lactone oxidase	0.28394348	0.33684734	0.1092202	0.14101827	0.10245224	0.15400878	0.42840254	0.7763927	1.021113	1.2034278	1.021113	1.2034278	1.021113	1.2034278	1.021113	0.80828574
Phase-1 RCT-33	0.38035818	0.4745723	0.6884243	0.5836725	0.56719004	0.37204096	0.51701295	0.5720211	0.7066958	0.943181	0.70347553	0.8636333	0.943181	0.70347553	0.8636333	0.8334676
C-Jun	2.5174065	2.6855447	2.5841537	2.7955986	4.314467	2.6335511	0.7469128	0.6617427	1.574772	1.7223917	0.92382914	0.8424038	1.7223917	0.92382914	0.8424038	0.6543116
Phase-1 RCT-233	0.36051628	0.3788895	0.39936015	0.36648917	0.3280884	0.2411879	0.50295556	0.3469799	0.72722733	0.91458875	1.1985965	0.8006894	0.91458875	1.1985965	0.8006894	1.1577319
Phase-1 RCT-38	0.55333835	0.8301813	0.7839576	0.73028284	0.7118964	0.6817357	0.79093343	1.1615802	0.9611848	0.9218938	0.9607282	0.91849284	0.9218938	0.9607282	0.91849284	0.8482851
Phase-1 RCT-242	2.502859	1.9304981	2.65577	2.743458	3.0169445	2.733232	1.0188131	1.7555054	1.3534871	1.1232831	1.4238481	0.8578823	1.1232831	1.4238481	0.8578823	0.7470564
Phase-1 RCT-181	0.5210405	0.5422325	0.8504093	0.7138847	0.6847149	0.6005487	0.7634349	0.9005349	0.7331442	0.9260154	1.0034314	1.0114653	0.9260154	1.0034314	1.0114653	1.2563295
Phase-1 RCT-185	0.38510843	0.3659088	0.66616673	0.7285354	0.397359415	0.36135862	0.37355938	0.36039224	0.78120797	0.8939484	1.317333	1.4676311	0.8939484	1.317333	1.4676311	1.0291608
Phase-1 RCT-179	4.3181844	3.5845747	1.8037996	1.7831013	1.6943557	2.1988665	2.131917	1.072867	0.907123	0.86261004	1.0414748	1.1483874	0.907123	0.86261004	1.0414748	1.1483874
Phase-1 RCT-144	2.8818834	2.322137	1.4180725	1.5688545	1.4747944	1.6095161	1.4690024	1.070489	0.990858	1.2376452	0.9862849	1.0551161	1.2376452	0.9862849	1.0551161	1.2158489
IKB-alpha	3.2208064	3.0759237	1.2718116	1.1730807	1.1193483	1.3409535	1.3540832	1.3409535	1.3540832	1.3409535	1.3540832	1.3409535	1.3540832	1.3409535	1.3540832	1.1548651
Phase-1 RCT-225	4.8842787	7.39835	1.8376107	1.8109711	2.8840844	2.2128698	1.0646118	0.6646972	1.6782884	0.84332075	0.8466914	0.9843891	0.84332075	0.8466914	0.9843891	1.1548651
60S ribosomal protein L6 (allamate done 1)	3.3378031	2.702234	1.5689124	1.56834	1.4911461	2.3021507	1.8350469	1.5237614	0.5297166	0.6474777	0.80341053	1.0496186	0.6474777	0.80341053	1.0496186	1.1171387
Beta-tubulin, class I	4.5409718	4.0335603	1.5651003	1.5274562	1.3538561	1.60003	1.448488	1.0494959	1.9022529	1.475887	1.4687059	1.0954233	1.475887	1.4687059	1.0954233	1.2269781
Multidrug resistant protein-2	5.6216693	4.368329	6.537999	5.2299156	6.291526	6.101459	1.3831802	1.1887408	1.8033012	0.99150854	1.1006029	1.0954111	1.8033012	0.99150854	1.1006029	1.0954111

Table 29

Phase-1 RCT-49	2.9415908	1.8672978	1.2631255	1.3283079	1.5471046	1.5203933	1.1185461	1.028222	0.9284726	0.81307104	0.8405808	0.8301092	0.8740884
Calgranulin B3	1.6693668	1.7128414	1.119722	1.3509684	1.3228017	1.9665909	1.912058	1.2079858	1.4054707	0.703878	1.0274892	0.97138174	0.9436655
NADP-dependent isocitrate dehydrogenase, cytosolic	0.43368438	0.40814877	0.69176223	0.5656794	0.48658114	0.48658114	1.014584	0.82572804	0.783716	0.9166569	1.0907234	1.4266632	1.3394283
Oxyster binding protein 1	0.6540581	0.80922015	0.8150219	0.9380221	0.7546331	0.4944048	0.61837684	0.7850298	1.5319337	1.1380426	0.8821601	0.84890114	0.879784
Sodium/bile acid cotransporter	0.26004183	0.18272866	0.2752223	0.3455292	0.3903255	0.086428115	0.17453887	0.27613932	0.52282405	0.5911849	0.6085194	1.4807682	1.18271
Phase-1 RCT-174	1.0480714	0.745312	0.835272	0.90015703	0.8670543	0.5732449	0.17339005	0.5766298	1.3935337	0.95776825	1.3845551	1.180378	1.0790569
Phase-1 RCT-177	0.84035964	0.50132763	0.66274123	0.8148804	0.8406891	0.38784638	0.84648306	0.52505016	1.174286	0.9170111	1.288565	1.0397905	1.232713
Inositol polyphosphate multikinase (pmk)4	0.21548773	0.18891085	0.57613286	0.54658074	0.47968003	0.25273082	0.48828772	0.91111267	0.7184985	0.8001495	0.82475644	1.2268013	1.1306336
Phase-1 RCT-256	0.49084513	0.64717754	0.4204458	0.46815492	0.47831958	0.49527194	0.58458066	0.6473118	0.59931944	0.83458066	0.6473118	0.9401882	1.0421045
Equilibrative nitrobenzylthioinosine-sensitive nucleoside transporter	0.3744075	0.4208692	0.6519004	0.5300047	0.44785407	0.3818815	0.702141	0.43371373	0.77792406	0.85607165	0.77782525	1.0200003	0.86330205
CDK102	0.74414176	0.78405887	0.8645643	0.862711	0.78651625	0.8527432	0.84026367	1.2923031	0.59050139	0.9187233	0.8255407	1.2242732	1.1687086
Phase-1 RCT-209	0.5907216	0.49724624	0.8955884	0.9414888	0.8758474	0.6317632	0.80135456	1.076094	1.3510179	0.94147485	1.0527578	1.0205718	1.0205718
NADH-oxochromol b5 reductase	0.43353412	0.50472215	0.50472215	0.5077238	0.38888652	0.3321142	0.4546813	0.47001243	0.6227278	1.0418127	1.0780482	1.3006737	1.2885541
Dynamin-1 (D100)	0.3681365	0.31565648	0.6928623	0.63176833	0.59818907	0.43111712	0.5552758	1.7845032	1.090302	0.8398385	0.900803	0.9697427	1.2835578
Sensorecancer marker protein-30	0.2534248	0.17354265	0.24839182	0.21349008	0.08579765	0.08579765	0.8578165	0.49014518	0.55011857	1.5930942	1.0945689	1.2894389	1.075281
Phase-1 RCT-89	0.33522076	0.40852574	0.5909707	0.61091538	0.58325287	0.37036335	0.726477	0.6374525	0.6617778	0.8559878	0.7687878	1.1475078	1.0847486
Carbamate palmitoyl-CoA transferase	0.33728147	0.32338147	0.8897526	0.9880608	1.3405445	1.2494368	0.8531129	1.0819103	2.2481048	1.3139156	1.2890938	1.0339848	0.9523708
Alpha-2-microglobulin	0.14315583	0.1770173	0.37453702	0.58105524	0.21422502	0.6882867	0.6198654	0.48248978	0.6389215	0.5254379	0.4713894	1.1618025	0.84684144
Apolipoprotein CII	0.36450087	0.35449484	0.90369383	0.64088928	0.55459593	0.47263368	0.5027271	0.7818134	1.178826	0.9145267	1.022237	1.2500895	1.0488013
Phase-1 RCT-141	1.2835271	0.7841519	0.6178365	1.8256543	2.306591	10.688544	8.92203	2.8128147	0.55824184	0.3351577	0.833193	1.2590878	1.263744
Phase-1 RCT-282	1.013517	0.78948226	1.1671086	1.1254803	1.109184	0.8406671	1.2246236	1.0643941	1.2876842	0.8850048	0.9151356	0.80099523	0.7070338
Phase-1 RCT-140	1.0440289	0.8991315	1.090186	1.058091	1.080747	1.0419546	0.8910112	0.8471063	0.63447684	0.8284781	1.3281587	1.1749408	1.075281
Cydlin D1	1.9289282	2.3967185	0.9169333	1.2194945	1.0760488	0.8910112	0.8471063	0.63447684	0.8284781	1.3281587	1.1749408	1.075281	1.075281
Phase-1 RCT-287	1.0528924	0.7819282	0.60572934	0.4900736	0.59155583	0.8183653	1.1978993	0.8927878	0.7895287	0.8927878	0.8927878	0.8927878	0.8927878
Phase-1 RCT-281	0.8767283	1.0360965	1.1310426	1.2709337	1.3528108	0.55136985	0.8842718	0.9718999	0.8315004	0.8541708	0.9283089	0.84724826	0.8007788
Retinol-binding protein (RBP)	0.4760031	0.32161883	0.67238423	0.6610238	0.67238423	0.6610238	0.67238423	0.6610238	0.67238423	0.6610238	0.67238423	0.6610238	0.67238423
ATP-stimulated glucocorticoid-receptor translocation promoter (GSK)	0.7285475	0.6146453	1.0486373	1.0486373	1.0486373	1.0486373	1.0486373	1.0486373	1.0486373	1.0486373	1.0486373	1.0486373	1.0486373
Phase-1 RCT-60	2.0506204	1.7520926	1.1891892	1.079545	1.1034988	1.2357916	1.1604015	0.97060853	1.1153308	1.0416637	1.0874859	0.9338108	1.0102227
Pyruvate kinase, muscle	2.452139	4.8594083	1.102097	0.97805276	1.104582	5.7231703	3.637848	2.5874855	1.3910917	1.1413805	1.0162992	1.0370548	1.0047013
PAP interacting protein	1.8047488	1.5374928	1.3036878	1.372597	1.3069781	1.5600888	1.3725723	0.9911812	0.9788089	1.122458	1.1678734	0.89874005	0.9390546
Nucleoside diphosphate kinase beta isoform	3.1666315	2.6818887	1.6010534	1.8418049	1.8392882	1.6041514	1.8604731	1.4666786	0.8383944	0.940285	1.1035591	0.9072705	0.8807667
Gadd153	3.9716643	3.3575413	3.5105417	3.7394226	3.718889	2.550709	2.78944	1.2583137	1.7231433	1.6805246	1.2284554	0.81670105	0.7948833
Insulin-like growth factor binding protein 1	4.09912	2.8876137	1.542871	1.2521566	1.75171	0.570809	1.4151118	0.4176188	0.978361	0.5810647	0.6883761	1.0085698	0.9242203
c-H-ras	1.5157272	1.2628487	2.1059286	1.908223	1.8544047	1.533287	1.7208844	1.4184655	2.1570125	1.026286	0.8479259	0.9440107	0.9597188
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	0.2415767	0.42311034	0.48472396	0.41975665	0.33224914	0.18772453	0.6187165	0.32508472	0.6782145	0.82163507	0.7880428	1.1226163	0.87888135
Phase-1 RCT-62	0.49621877	0.53748256	0.48578978	0.44423058	0.33581656	0.38131418	0.48837078	0.38315743	0.8054461	1.0198327	1.1388771	1.2860135	0.97843244
Alpha-1 - inhibitor III	0.2710247	0.22687924	0.30981296	0.28094555	0.17643473	0.23649451	0.21744502	0.16594468	0.8074134	0.87534785	0.97129166	0.7824219	1.3384509
Steroid carrier protein 2	0.6170321	0.5178474	0.65388465	0.7042097	0.626887	0.26534784	0.8490323	0.7418839	0.65621597	1.0503608	1.1149167	1.3258059	1.1982495
Organic anion transporter 3	0.6115555	0.6187844	0.61303824	0.68054468	0.80277354	0.4878885	0.42884488	0.78248884	0.8157177	1.4590472	1.2482497	0.9988856	0.5764567
Calgranulin B4	0.35119485	0.3578352	0.37903525	0.40488157	0.47886294	0.34921228	0.840124	0.5590386	1.160017	0.9678887	1.1657137	1.0745115	1.0002777
Phase-1 RCT-182	0.32189287	0.31305525	0.4734376	0.5698033	0.47037378	0.1998338	0.47328514	0.9002813	0.5534378	1.028285	1.177864	1.2754034	1.3091512
Calgranulin B8	0.38362607	0.4918345	0.5815787	0.6248882	0.5915746	0.16823576	0.41359785	0.48456155	0.8861808	1.1274709	1.039289	1.1175907	1.2860189
Aldehyde dehydrogenase, microsomal	0.38631922	0.4810944	0.7647163	0.7006017	0.8132822	0.38491407	0.71312994	0.6943056	0.8292873	1.0568805	0.83447858	1.1562272	1.1982495
Phase-1 RCT-126	0.6315305	0.1965372	0.646163	0.4015176	0.41240856	0.2610953	0.2388717	0.43255102	0.78219714	1.0572059	1.1973848	1.4738848	1.4738848
Phase-1 RCT-102	0.24700879	0.4453755	0.2258878	0.2417862	0.1890488	0.51226153	0.43225986	0.43687818	0.8310969	1.0672108	0.77609284	0.8447	0.6427715
Preproalbumin, sequence 2	0.31837594	0.2698798	0.4961773	0.52091146	0.4109135	0.2313244	0.4248884	0.7285846	0.38592844	0.23127187	0.23520419	0.71351707	0.7823804
Apolipoprotein AII	0.13407543	0.21925701	0.4352991	0.3707788	0.26823748	0.32083398	0.5959884	0.23623748	0.6940978	0.6940978	0.6940978	0.6940978	0.6940978
Phase-1 RCT-10	0.38138087	0.32505375	0.5052946	0.5212826	0.68890874	0.456694	0.9099002	0.6514062	1.059435	0.8780684	1.2155375	1.317091	1.2155375
Phase-1 RCT-48	0.8350863	1.022386	0.50527436	0.50527436	0.47468972	0.8411301	1.1232914	0.6514062	1.059435	0.8780684	1.2155375	1.317091	1.2155375
Phase-1 RCT-5	0.30850732	0.3046616	0.4830673	0.5103014	0.42729688	0.27155932	0.4675775	1.5813137	1.5283992	0.6218277	1.3383092	1.3469791	1.3989218

Table 20

Phase-1 RCT-168	0.43322743	0.47028422	0.5985751	0.54473907	0.49808004	0.48476455	0.7845792	0.7486263	0.6622288	0.90822563	0.85249888	0.9106722	1.011204
Phase-1 RCT-68	0.4300733	0.26471233	0.6943669	0.7229517	0.7016216	0.38657817	0.77914317	0.69225975	1.1194781	0.9023152	1.1490282	1.57613	
Beta-aldolase synthase	0.3427218	0.27813858	0.6389943	0.7182434	0.6389943	0.98074234	0.41717828	0.55121693	1.2136337	0.68228513	1.8447229	1.7765839	
Phase-1 RCT-286	0.19879417	0.3182876	0.2677555	0.23157519	0.21598344	0.21168052	0.30700776	0.26083566	0.5766145	0.7051622	1.4171556	1.3164165	
Carbonic anhydrase III	0.07362342	0.03951074	0.11952618	0.27094578	0.070245514	0.01178743	0.2134445	0.048456877	1.3927325	1.4924064	1.31315	1.3088467	
Phase-1 RCT-291	0.45855042	0.48904678	0.6157505	0.62519874	0.62519874	0.43250716	0.62519874	0.62519874	0.62519874	0.62519874	0.62519874	0.62519874	
Carbonic anhydrase III, sequence 2	0.29877985	0.12716717	0.46176437	0.44901344	0.40870656	0.29877985	0.46176437	0.44901344	0.40870656	0.29877985	0.46176437	0.44901344	
Phase-1 RCT-271	0.83669823	0.164485	0.4659367	0.4629361	0.40870656	0.29877985	0.46176437	0.44901344	0.40870656	0.29877985	0.46176437	0.44901344	
HMG-CoA synthase, mitochondrial	0.2546302	0.38559754	0.4302586	0.51363184	0.580474	0.29877985	0.46176437	0.44901344	0.40870656	0.29877985	0.46176437	0.44901344	
Phase-1 RCT-189	0.5589878	0.492471	0.7339136	0.727737	0.7230405	0.8204568	0.9108075	0.7082378	1.252548	1.6807578	1.32887	1.028491	
Phase-1 RCT-40	0.8049822	0.8799528	0.7428539	0.7488237	0.6309288	0.48524282	0.8891092	0.74711007	0.34327504	0.63853544	0.95480074	1.0286295	
Urinary protein 2 precursor	0.2855585	0.14770149	0.4932205	0.45688037	0.3948471	0.38457471	1.3522286	0.74711007	0.34327504	0.63853544	0.95480074	1.0286295	
Paraoxonase 1	0.30580345	0.28917864	0.3920687	0.3948471	0.30580345	0.28917864	0.3920687	0.3948471	0.30580345	0.28917864	0.3920687	0.3948471	
Liver fatty acid binding protein	0.33822393	0.24945676	0.3516527	0.3246081	0.30063456	0.11616285	0.80791737	0.36090923	0.40895004	0.4787793	0.46761113	1.2881334	
Phase-1 RCT-38	0.31491814	0.2390813	0.30107158	0.2697094	0.17081368	0.18214242	0.40895004	0.4787793	0.46761113	1.2881334	0.46761113	1.2881334	
Phase-1 RCT-270	0.5490685	0.69739205	0.3616164	0.46598174	0.4010415	0.19250913	0.4661193	0.50358426	0.35957724	0.80312103	0.5920125	0.8991827	
Transferrin	0.2011055	0.13761618	0.43087855	0.4424237	0.36734	0.19025129	0.30394447	0.73342437	0.40278018	0.70378873	0.7350139	1.0183108	
Hepatic lipase	0.23557782	0.19055839	0.34382612	0.40054855	0.41832458	0.2268487	0.28302503	0.24689584	0.9855135	0.75033305	0.8322158	0.90320754	
Cytochrome P450 11A1	0.56006746	0.5537707	0.7701113	0.8511128	0.741382	0.9192369	1.283714	1.0358288	0.877008	1.198213	0.80010456	1.8276275	
Phase-1 RCT-175	0.3097174	0.3343822	0.7748669	0.8113301	0.741382	0.9192369	1.283714	1.0358288	0.877008	1.198213	0.80010456	1.8276275	
Phase-1 RCT-137	0.434687	0.3112053	0.5307206	0.43601215	0.4262447	0.6077146	1.0373673	0.80314773	0.7138952	1.245471	1.241281	1.0607845	
Melanoma-associated antigen ME-491	3.3384204	3.0576618	1.5296678	1.5107881	1.3708565	3.208101	2.3447323	1.5201687	1.472059	1.245471	1.241281	1.0607845	
Phase-1 RCT-12	2.8943422	2.7650568	1.3748502	1.5296678	1.3748502	1.0252221	1.1602626	0.7078875	1.5937912	1.2522003	0.2832004	0.95503397	
Phase-1 RCT-152	3.8696693	2.2573147	1.7310591	1.9679004	1.6254013	1.952817	1.7218958	0.65081867	0.8882049	0.7017215	1.0821545	1.0314894	
14-3-3 zeta	2.4876626	2.5851805	2.5322504	2.5469873	2.3486543	1.853727	1.726598	1.2884848	1.2783489	0.8986852	1.4774069	0.8549353	
Cytochrome P450 2C23	0.20464861	0.20651483	0.3366537	0.32730518	0.30733088	0.097233084	0.13247661	0.1418498	0.8609864	0.73032268	0.81165284	1.7424043	
Voltage-dependent anion channel 2 (Vdac2)	2.6815848	1.945779	1.7784898	1.7033782	1.5794578	1.7463839	1.7317485	1.4183774	0.9150525	0.9803652	0.8322419	1.0999447	
Phase-1 RCT-164	2.6554098	2.5966717	3.5815825	3.7613585	3.2897666	2.6424416	2.0896	1.5649568	1.1884558	1.0230782	0.83015925	1.0732797	
Superoxide dismutase Mn	4.810452	3.3345268	3.1342778	3.437343	3.6470662	28.04024	7.822339	2.394923	0.7550042	0.8977444	1.2815182	1.3424653	
crmc	2.5362456	1.9832413	1.4373943	1.4835546	1.8225877	1.893587	1.1545914	0.8650667	1.5931368	1.427438	1.202431	0.7662443	
Phase-1 RCT-186	1.4655389	1.2985523	1.1983247	1.1531159	1.065524	1.6233163	1.145549	0.91818833	1.2341428	0.91721876	0.862568	1.0038535	
Oxylid G	5.3407287	3.834693	14.40476	13.8536155	11.28982	4.850463	2.08717	1.4689183	0.89508456	1.5431851	1.7557242	0.8915296	
Calgranulin B5	2.6280404	2.844523	2.270365	1.3416070	1.3866704	1.021275	0.9608669	0.7651958	1.2596477	0.9161675	1.1210262	0.8788341	
p53	1.5792546	1.3919713	1.5384244	1.8138364	1.417432	1.5930196	1.5543827	1.0921013	0.8318277	0.9424017	0.95299584	1.0663828	
Phase-1 RCT-205	2.1216888	1.7425519	1.3302377	1.1805426	1.1610519	0.000088	1.8188421	1.161093	0.1663558	1.0791504	1.0305186	1.0286695	
Phase-1 RCT-68	2.1566505	1.4050556	1.495798	1.418502	1.9690349	1.7828883	1.8665108	1.2695843	1.0835787	1.3204883	1.3204883	1.3204883	
Caspase 3	1.350516	1.1343979	1.068843	1.3947666	1.1243976	1.1851568	2.4813232	0.98035747	1.0147286	1.4598734	1.5120203	1.1439577	
Alpha-tubulin	2.076884	3.323662	1.594434	1.685381	1.658587	3.784436	2.5900264	1.666497	0.87208535	1.0250872	0.8357931	0.9605634	
Ribosomal protein L13A	2.8066465	3.3036292	1.8349693	1.6520817	2.0334957	3.784436	2.5900264	1.666497	0.87208535	1.0250872	0.8357931	0.9605634	
lgE binding protein	4.228893	2.5187447	1.050186	1.6520817	2.0334957	3.784436	2.5900264	1.666497	0.87208535	1.0250872	0.8357931	0.9605634	
Phase-1 RCT-39	2.2124736	1.7466692	1.6502291	1.8515362	1.8013882	1.854823	1.326568	0.982198	0.7527101	0.805872	0.92247355	0.8594564	
Cofilin	1.6249001	1.6070769	1.9657408	1.8471423	1.690159	1.8075478	1.4177225	1.570497	0.9331037	1.1904167	1.310718	1.3227892	
Hemo oxygenase	3.1921583	2.1816916	1.9657408	1.8471423	1.690159	1.8075478	1.4177225	1.570497	0.9331037	1.1904167	1.310718	1.3227892	
Phase-1 RCT-241	1.8538006	1.864719	1.8973739	1.8643655	1.9321384	4.410043	2.4815652	1.755722	1.0405408	0.88765526	1.0526792	1.3150795	
Ribosomal protein S9	2.353816	2.4559047	1.3804723	1.2748027	1.2205178	2.6673539	2.3430028	1.6080464	1.3776001	0.88765526	1.0526792	1.3150795	
Phase-1 RCT-258	1.2575247	1.1695768	1.2801701	1.2076132	1.1705775	1.4595515	1.5391624	1.030154	1.0290152	1.0485544	1.0507412	1.0062046	
Apurinic/apyrimidinic lyase	1.5525392	1.7829258	1.3000663	1.2197003	1.2713649	2.1828194	2.985101	3.443073	0.9882454	1.0053443	0.89850055	1.0459018	
Phase-1 RCT-180	1.3830785	1.4221691	1.3999335	1.3392003	1.3968623	1.3043307	1.0581591	1.2047818	1.4875165	1.1603202	1.3603394	1.3672848	
Multidrug resistant protein-1	4.672183	3.507157	6.194462	4.656507	6.861969	6.61696	1.8740501	1.2183986	1.2395845	1.590348	1.398557	1.1135201	
Oxidative decarboxylase	2.6702077	1.5963312	3.36143	3.1633654	3.3052238	2.5982585	1.7417487	0.9407112	0.9093212	0.8940445	0.9509851	0.862088	
Thymidine beta-40	2.127283	3.1538043	1.8251298	1.7323484	1.5980833	1.5925621	2.8686851	1.8688744	0.8993212	0.8940445	0.9509851	0.862088	
Phase-1 RCT-72	2.5982408	2.14235	1.499445	1.5753512	1.3181504	1.5916523	1.1150602	1.5056164	0.8599255	1.3034898	1.0924208	0.8173769	
Phase-1 RCT-109	2.4580685	2.470058	1.5446198	1.5332225	1.4501681	2.0901756	1.6830128	1.4481655	0.5411397	0.48835558	0.86637597	1.0239607	
Phase-1 RCT-76	0.8527119	1.1039697	1.5092321	1.3099422	1.3689472	1.062172	0.87288725	0.87323003	0.7693723	0.66280054	0.8012361	0.8524714	
Vacuole membrane protein 1	1.6187884	1.0717652	1.4340048	1.341724	1.5388853	1.4591691	0.8957753	0.9711073	0.6907842	0.73229563	1.0587793	1.2060816	

Table 29

Phase-1 RCT-158	1.040846	1.0534656	1.1326924	1.0347681	1.2588331	1.8789847	1.4833564	1.1527293	1.7211432	1.091826	1.0240816	0.9408622	0.7678133
Phase-1 RCT-113	1.200982	1.0895174	1.6817669	1.719571	1.8525314	2.0072336	1.8078903	1.5209825	1.297648	0.9131623	1.0222727	1.0222727	1.0226542
Endogenous retroviral sequence, 5' and 3'	2.5310226	4.017355	1.1651069	1.4002427	1.8155560	2.6396678	1.2755332	2.98493	1.0718288	1.2168823	0.8889484	1.0623314	0.80168543
LTR	1.9375966	3.9194362	3.757428	3.3879239	3.3310884	4.541738	3.5038154	1.9381654	1.7933574	1.2144873	1.0650387	0.90652514	1.4332731
Beta-actin	1.872127	1.6192725	1.8160166	1.5001867	2.1914098	1.343297	1.1689555	1.0036343	2.4295921	1.3433158	1.2759155	0.93673897	0.953924
Phase-1 RCT-65	2.4207473	2.800605	2.5108418	2.2420886	2.5950595	2.2823365	1.3608875	0.90048337	5.089075	2.482735	2.0657809	1.2771666	1.305546
MHC class II antigen RT1.A1 (b) alpha-chain	2.1037614	2.1600115	2.3857157	2.5559995	3.241329	1.9627922	1.3635134	1.0760796	2.721402	1.2327665	1.1441972	0.85434824	0.84231305
Bax (alpha)	1.922178	1.7814437	1.3840526	1.5300332	1.3416725	1.7387627	1.2162352	1.1286834	1.9037108	1.2623004	1.180303	0.9139171	0.86222625
Carbonyl reductase	1.5304941	1.8797337	1.815885	1.9562889	1.5818186	2.747517	2.159201	1.301584	0.6884991	0.74915314	0.7070718	1.0445542	1.1489203
Beta-actin, sequence 2	1.1165432	1.171089	1.1331552	1.2983403	1.4862773	1.5129097	1.6288155	2.2455423	2.1805695	1.2550635	1.0676422	0.7771851	0.76218516
Interleukin-10	1.2354523	1.5717224	1.4348435	1.8958945	1.4858713	1.4370487	1.0701076	0.96047455	2.8661225	1.1314224	1.2840335	0.8811881	1.0745221
Phase-1 RCT-191	1.1047789	1.3446344	1.1612452	1.358691	1.3700262	1.0850706	1.1992472	0.825945	0.7113503	0.7833568	0.9256437	1.0512552	1.1431639
Phase-1 RCT-111	0.55342665	0.5866476	0.7246956	0.7504253	0.64204655	0.6725213	1.1333556	1.0698755	0.67514163	0.8020088	0.6674851	1.0188705	0.8541415
Apoptosis-regulating basic protein	0.4441957	0.34222708	0.60336234	0.6860433	0.6253498	0.28492595	0.3995659	0.47146833	0.46461016	0.8904069	1.183578	0.9189795	0.8521722
Glutathione peroxidase	0.46239427	0.6159896	0.8062504	0.8532385	0.76854628	0.4250528	0.8083125	0.7512672	0.86804625	0.8413165	1.1698519	0.9189795	0.8521722
Phase-1 RCT-57	0.768809	0.8673614	0.7720853	0.75138167	0.734131	0.8933775	0.8510758	0.820971	1.4259842	0.8750452	1.0139817	0.8091804	0.8191062
Tryptophan hydroxylase	0.6974299	0.8174053	0.895697	0.8834286	0.76401395	0.51648337	0.73634857	0.64124525	1.1016654	1.5070183	1.1613839	1.1787408	1.0753994
Sulfotransferase K2	0.89855856	0.8128288	0.73773164	0.8336886	0.76401395	0.8232431	0.9170819	1.0439477	1.2145693	0.87422943	0.9707061	1.0487093	1.054362
Calgranulin B9	0.81917465	0.7673098	0.84864426	0.8801969	0.8450431	0.8232431	0.9170819	1.0439477	1.2145693	0.87422943	0.9707061	1.0487093	1.054362
Phase-1 RCT-123	0.6931912	0.74230268	0.8828438	0.9371591	0.8565413	0.6525584	0.7121351	0.84193736	1.1929274	1.185714	0.997732	1.0705374	1.0532899
Phase-1 RCT-98	0.7240415	0.7508854	0.78894014	0.9758925	0.8251046	0.74654126	0.76824117	0.92038816	1.3746916	1.0940747	1.201368	1.0418025	1.0130767
Aquaporin-3 (AQP3)	0.8015517	0.11460654	0.05144679	0.030903155	0.025953446	0.069148526	0.08576837	0.1475723	0.81173784	1.0629214	1.2658275	0.18615815	1.0724628
Steady-state desaturase, liver	0.6514277	0.7867824	0.6834237	0.69294818	0.62232465	0.3317368	0.42752995	0.5703706	1.4086087	1.0535489	1.1439529	1.0760943	0.9760915
Phase-1 RCT-64													
(1) Gene expression data for 24 hour													
treatment/control for all 24 hour predictive													
genes (Table 5).													
(2) Compound and dose abbreviations as in													
Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for													
compound-dose group at 72 h: yes=neut,													
necrosis observed; yes=both, necrosis with													
inflammation observed; no, no histopathology													
observed													
(5) Predictive gene (as in Table 5 and as													
included in Table 20)													

Table 29

Table 29. Expression Data for 24 Hour												
Timepoint (1)	NAL 45	NAL 180	NAL 180	NAL 180	NAL 180	NAL 180	NAL 180	NAL 180	NAL 180	NAL 180	NAL 180	NAL 180
Compound-Dose (2)	2846	no	no	no	no	no	no	no	no	no	no	no
Animal Number (3)	2846	no	no	no	no	no	no	no	no	no	no	no
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	0.7108213	1.2212256	1.0807403	1.088423	1.0630708	1.0540012	0.88110955	1.2515453	1.1673238	1.2074806	0.78360285	0.852407
GemA-actin, cytoplasmic	0.8521531	0.98216426	1.0892682	1.0161685	1.0922357	1.1466202	1.1423323	1.1695508	1.2371436	1.0397196	1.0227624	1.1055138
Phase-1 RCT-145	1.317823	1.2205876	1.0905967	1.0905967	0.94081753	1.0090602	1.0494011	1.0435594	0.9524039	1.020712	1.1415483	1.189228
Gadd45	1.1756261	1.1273028	1.3172623	1.8338281	1.0188993	0.9527552	0.8518797	0.98557025	1.1093872	0.9808426	1.2916156	1.393217
Phase-1 RCT-78	0.8516111	1.0413183	0.9335588	1.1832144	0.86441416	1.242527	1.2256192	1.3006442	1.4042194	1.3285125	1.2004303	1.0851785
Fas antigen	0.8784871	1.0076822	1.2191698	1.0553993	0.797769	1.1802333	1.0088522	1.0933721	1.1200843	1.1774955	1.1319822	1.3471737
Macrophage inflammatory protein-2 alpha	0.8369259	0.9417765	0.923899	1.0988127	0.9741254	1.2715927	1.0917827	1.2895156	1.3701577	1.3345927	1.1203905	1.1994319
Interleukin beta1	0.85160947	0.83177507	0.8490099	0.9748075	0.9504951	1.0203738	1.0238351	1.032711	1.0710108	1.0413005	0.8275894	0.84715904
Phase-1 RCT-207	1.4302708	1.2783714	1.000748	0.7625103	0.7830151	0.9364659	0.8551621	0.94636534	0.8687502	0.84323927	0.85193485	1.160492
Aspartate aminotransferase, mitochondrial	0.7325813	0.6944536	0.7625103	0.7830151	0.9364659	0.8551621	0.94636534	0.8687502	0.84323927	0.85193485	1.160492	1.160492
Caselin-alpha	1.1643722	1.3248862	0.9612571	1.0410718	1.2950145	1.8332116	1.8311319	1.8463568	2.0884448	1.8691728	1.0838413	1.0121413
Malic enzyme	1.0040862	0.72173756	0.79347694	0.701473	0.8529178	0.8033319	0.821318	1.1384095	1.0659232	1.0731734	0.8243395	0.9149388
Phase-1 RCT-30	0.62185158	0.7807364	0.7398817	0.7898225	0.9378551	1.1202905	1.1345185	1.1845737	1.0119684	1.0839792	1.10451	1.1719197
Hepatocyte growth factor receptor	1.0216486	0.9783675	0.7850438	1.0873249	1.0513394	1.1325185	1.1845737	1.0119684	1.0839792	1.10451	1.1719197	1.1719197
MAP kinase kinase	0.97512454	1.0073826	0.86571028	0.86571028	0.86571028	0.86571028	0.86571028	0.86571028	0.86571028	0.86571028	0.86571028	0.86571028
Sodium/glucose cotransporter 1	0.30300042	1.5144208	0.36781317	0.474527	0.5318587	1.6908425	0.9238245	1.4227034	0.8976393	0.8165543	1.2030885	1.241478
Phase-1 RCT-50	0.7442276	0.77068	0.84388405	0.8072372	0.8834808	1.0032948	0.9622727	0.9333041	1.0713737	0.94878913	0.9893388	0.9285178
Phase-1 RCT-192	0.82691526	0.8003569	0.99572456	0.8659878	0.8659878	0.8659878	0.8659878	0.8659878	0.8659878	0.8659878	0.8659878	0.8659878
Phase-1 RCT-268	0.7412354	0.8171967	1.2314785	1.2314785	1.1140927	1.2784859	1.1839733	1.2112213	1.007766	1.0337725	0.7838725	1.2516034
Phase-1 RCT-37	1.087758	1.479757	1.5448063	1.7507858	1.1309593	1.3515892	1.2023529	1.2516034	1.007766	1.0337725	0.7838725	1.2516034
Organic cation transporter 3	1.2533561	1.426678	1.5448063	1.7507858	1.1309593	1.3515892	1.2023529	1.2516034	1.007766	1.0337725	0.7838725	1.2516034
Zinc finger protein	1.3051459	1.4760642	0.9718501	1.021083	1.066885	1.0910848	1.0422914	1.0251077	1.0552261	1.0319965	0.9157237	1.1587283
GUS ribosomal protein L6	0.85709146	0.70353115	0.85709146	0.85709146	0.85709146	0.85709146	0.85709146	0.85709146	0.85709146	0.85709146	0.85709146	0.85709146
Calgranulin B2	0.87930305	0.8844677	1.0021083	1.066885	1.0910848	1.0422914	1.0251077	1.0552261	1.0319965	0.9157237	1.1587283	1.5982716
ID-1	1.4992453	1.1335571	1.059315	0.807729	0.88442016	0.8692716	1.0079348	0.95340157	1.0151496	1.0769886	1.1158924	1.2524338
Phase-1 RCT-82	0.8191098	1.1670418	1.3369585	1.2203585	1.0527883	1.2643455	1.1824924	0.9321842	0.8878795	1.0035175	1.0711569	0.8981125
Phase-1 RCT-115	0.91398156	0.93621504	0.8888636	0.8888636	0.8888636	0.8888636	0.8888636	0.8888636	0.8888636	0.8888636	0.8888636	0.8888636
Martin F/G	0.8098004	0.93455814	1.0178391	1.4440944	0.88878396	0.8951863	0.939975	1.072981	1.0631598	1.1305178	0.81771606	0.6962265
MuL hemoglobin (MLH1)	0.75774115	0.8526455	0.8151553	0.8652397	0.8652397	0.8652397	0.8652397	0.8652397	0.8652397	0.8652397	0.8652397	0.8652397
Phase-1 RCT-24	1.2671681	1.6352008	1.8072831	1.8072831	1.242558	1.183549	1.1766214	1.2141869	1.2774308	1.322058	0.743394	0.8604278
Sorbitol dehydrogenase	0.7376541	0.7537668	0.803919	1.0449541	1.3854221	1.5143603	1.3857201	1.0101408	0.8698682	1.0738678	1.0730754	1.155045
Phase-1 RCT-24	0.7128395	0.7273725	0.8687359	0.8687359	0.8687359	0.8687359	0.8687359	0.8687359	0.8687359	0.8687359	0.8687359	0.8687359
Calgranulin B1	1.2258874	1.3377715	1.4105369	1.3855632	0.9833733	1.177081	1.0783189	0.95143857	1.1530828	1.1802515	0.79343806	0.806003
Elavation factor-1 alpha	1.1384842	0.7283362	0.6586729	0.5415168	1.028597	1.0505722	0.8182574	0.6365368	0.6401941	0.70549196	1.3008119	1.5427924
L-glutamate-gamma-lactone oxidase	1.1032861	1.0516772	1.0073537	0.82482904	1.247765	1.2257789	0.8417327	0.6414178	0.62144756	0.6870558	1.1399523	1.3843127
Phase-1 RCT-33	1.001915	0.7951392	0.7339308	0.7033142	1.028597	1.0505722	0.8182574	0.6365368	0.6401941	0.70549196	1.3008119	1.5427924
C-Jun	1.2359598	0.70221484	0.7016313	0.7433142	0.8874386	1.0905216	1.2118015	1.4414533	1.1308161	1.1677044	1.0856223	1.0100074
Phase-1 RCT-233	0.96754885	0.9583876	0.96304286	0.96304286	0.96304286	0.96304286	0.96304286	0.96304286	0.96304286	0.96304286	0.96304286	0.96304286
Phase-1 RCT-38	0.79089594	0.74991935	0.8336187	0.75990485	0.8921382	0.9504033	0.8138221	0.854527	0.854527	0.854527	0.854527	0.854527
Phase-1 RCT-242	1.1405444	1.3655887	1.0287879	0.92948306	1.1221112	0.9651248	0.9555526	1.0560114	1.0416886	0.9838852	1.1332326	1.5037683
Phase-1 RCT-181	1.3042485	0.8548406	0.9387766	0.7881146	0.90214837	0.76651267	0.70257394	0.8159335	0.79330033	0.7668434	0.7862408	0.8680773
Phase-1 RCT-185	0.84841377	0.73907214	0.8049443	1.0595615	1.0935851	0.86341476	0.9703842	0.96934	1.1633868	1.0758105	0.89772487	0.8419514
Phase-1 RCT-179	0.98664767	0.98675077	1.062118	0.98481875	0.98481875	0.98481875	0.98481875	0.98481875	0.98481875	0.98481875	0.98481875	0.98481875
Phase-1 RCT-144	1.1714486	1.1376547	1.199332	1.2941346	1.0903168	1.304068	0.9595003	1.0780081	1.2841011	1.0958737	0.8327695	0.7884615
ILK-beta	0.6649586	0.8526075	0.56117284	2.0515985	1.1320049	1.3363782	0.9105654	1.6865237	0.8131781	0.95888743	0.9128174	1.1811236
Phase-1 RCT-225	1.18196	1.4039889	1.4246887	1.6782861	1.1006337	1.1304626	0.998245	1.1591944	1.224765	1.3008189	1.3681743	1.4821256
GUS ribosomal protein L6 (alternate clone 1)	1.0134143	1.5483813	1.3095841	1.3349802	1.4159884	1.8414356	1.5002012	1.5072911	1.6184081	1.632163	1.7295218	1.5022422
Beta-tubulin, class I	0.82944173	1.473153	1.4696288	1.0388268	1.0388268	1.0388268	1.0388268	1.0388268	1.0388268	1.0388268	1.0388268	1.0388268
Multidrug resistant protein-2	1.0134143	1.5483813	1.3095841	1.3349802	1.4159884	1.8414356	1.5002012	1.5072911	1.6184081	1.632163	1.7295218	1.5022422

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Phase-1 RCT-49	0.7945655	0.9209793	0.86502243	0.8512035	0.8798802	0.9102153	0.94338106	0.907863	0.9350562	0.8771705	0.8690091	0.8084037	0.91829836
Calgranulin B3	0.8655031	1.1343502	1.1624098	1.1198952	1.1146247	1.2154524	1.1047284	1.2077343	1.2547921	1.1586927	1.2132711	1.1358421	1.3416873
NADP-dependent isocitrate dehydrogenase	1.3686329	0.86421037	0.8876584	1.3459216	1.0789074	0.9925583	1.0859435	1.0299087	1.0402734	1.1657312	0.9270499	0.875138	0.9682881
Cytosolic													
Oxalate binding protein 1	0.9108757	0.80483123	0.9503644	0.97358016	0.8810886	0.8738034	0.76401305	0.8513713	0.8147221	0.77693635	1.047764	1.2453977	1.3887161
Sodium-dependent isocitrate dehydrogenase	1.4284773	1.2950571	1.5503533	1.6445105	1.3748221	1.6056002	1.6194117	2.8062227	2.7565466	0.69262576	0.7428889	1.11105	
Phase-1 RCT-174	1.2211837	1.374908	1.3784744	1.1514283	1.1708428	1.2375371	1.2164784	1.0908173	1.3211828	1.438359	1.2176606	1.3816337	1.2487988
Phase-1 RCT-77	1.3584315	1.543754	1.463364	1.2171283	1.247524	1.2417465	1.1326608	1.3770509	1.484904	1.1920491	1.2801553	1.1853358	
Inositol polyphosphate multikinas (IpMK4)	1.6571159	1.3102386	0.9063114	0.98530257	0.7687725	0.58406854	0.84049895	0.5786525	0.5647147	0.58357	0.55523627	0.6031051	0.8292021
Phase-1 RCT-256	1.4589447	1.095936	1.0323867	0.8282251	1.1240284	0.9911421	0.98333454	0.912678	0.87613794	1.1358812	0.892417	1.1783812	
Equilibrative nucleoside/nucleotide-sensitive													
nucleoside transporter	0.6475984	0.48891117	1.0088784	0.6443255	1.0007473	1.0175515	0.7905172	0.95177394	0.8269258	0.9012228	0.60467854	0.58832398	0.5594676
CDK102	1.3001322	1.3908846	1.2532539	1.1705231	1.1438412	1.0546213	1.1428906	1.0115353	1.025943	1.1110393	0.8423316	0.8845892	0.9564245
Phase-1 RCT-209	1.1153713	1.0340592	0.9242472	0.97728014	1.0186841	0.9273983	0.91059315	0.8966842	0.8904369	0.8289059	0.8920538	0.9271669	
NADH-cytochrome b5 reductase	1.7209028	2.0180998	1.2616445	1.8752973	1.8263285	1.3397765	1.076803	1.0737691	1.3101471	1.1937072	0.8248776	0.9000133	0.8707494
Dynamin-1 (D100)	1.1938505	0.9103717	0.8365997	0.8466398	0.9340932	0.84770167	0.8321644	0.91275084	0.87168338	0.8326314	0.98530844	0.8393768	1.0703322
Sarcosine marker protein-30	1.4554753	1.1735932	0.9330271	1.3021619	1.058491	0.7967488	0.7541665	0.4704822	0.8826545	0.7312886	0.8409734	0.88550175	
Phase-1 RCT-89	1.2382659	1.2584554	1.1476489	0.9689852	1.1633846	1.1540354	1.0218977	0.1665272	0.80109338	0.9511349	0.82821878	0.82671543	0.93328358
Camitine palmitoyl-CoA transferase	1.0056091	0.9731419	1.370123	1.0316802	0.925545	0.90541774	0.8223494	1.0245651	0.7816251	0.68705034	1.1185747	1.1188826	
Alpha-2-microglobulin	1.1348719	0.57439335	0.8777837	0.9760137	0.9049048	1.3402883	0.4588147	0.6303273	0.76818085	0.59870154	0.7964272	0.543503	0.8945873
Androporphyrin CII	1.1350039	1.2161075	1.5448645	1.2730893	0.8883828	0.77721107	0.7250334	0.8003769	0.75723004	0.59840493	0.9813084	0.842528	0.8718801
Calretinin L sequence 2	1.013816	0.6900481	1.196563	1.2324036	1.2727754	1.5925039	1.3696398	1.2079851	1.1576259	1.2789314	1.0928464	1.273753	1.2834086
Phase-1 RCT-141	0.85472214	1.1027691	1.301691	1.4817984	1.0427978	0.9871474	1.0026091	1.1576259	1.2789314	1.2789314	1.0928464	1.273753	1.2834086
Phase-1 RCT-289	1.1878736	1.1849717	1.1605105	0.97789705	1.3882618	1.1688918	1.173028	1.2451423	1.3781716	1.3488929	0.7546521	0.7321679	0.9831524
Endothelin-1	0.7743734	0.7587664	0.8223207	0.9620162	0.8166723	0.80650934	0.9335887	0.9452087	1.1037155	1.0017846	1.0508366	1.081888	0.9528697
Phase-1 RCT-282	0.7181182	0.77797943	0.8323851	0.88758045	0.8727978	0.8693042	0.97701305	0.8783103	0.80428644	0.87178944	1.0488828	1.1757902	1.0438749
Phase-1 RCT-140	0.74848727	0.8557865	0.92468724	0.888537	0.9932946	1.0425621	0.88876196	1.087528	1.047831	1.4798464	1.6099744	1.2459476	
Cyclin D1	1.1392246	1.0189381	0.9383029	0.90173568	0.85583687	1.3334715	0.810279	0.8791432	1.0297111	0.9480701	1.0222385	0.8662885	1.1794913
Phase-1 RCT-287	1.1345835	1.0715378	1.2093028	1.0680703	1.0205739	0.93373746	0.99131024	1.0189512	1.0697343	1.0686355	1.0213088	0.177569	1.0525852
Phase-1 RCT-281	0.8663382	0.7514614	0.7959658	0.9500297	0.87402076	0.78604854	0.85894685	1.0449101	0.86184458	0.80492526	0.8686298	0.72034657	1.138475
Retinol-binding protein (RBP)	1.4078014	1.2007042	1.4362344	1.2256008	1.6549897	1.4533019	1.4000489	1.2751522	1.2077728	0.73246255	0.7322455	0.5837064	
ATP-stimulated guanylate cyclase	0.3939378	0.76410506	0.8749573	1.098886	0.58128555	0.87220436	0.7628155	0.65278806	0.60577834	0.7872022	0.71406204	0.9527085	1.244368
Transcription promoter (Glx)	0.83353355	1.2022501	0.9339825	1.005981	1.0991844	1.4330581	1.2039861	1.1737727	1.5055685	1.3216424	0.80483503	0.8575163	1.0326198
Pyruvate kinase, muscle	0.89368564	1.0719592	1.177124	1.198789	1.0906881	1.3283389	1.2355403	1.0551441	1.1328807	1.116781	1.0689962	1.1577378	1.0657641
PAR interacting protein	0.8200094	0.9944221	1.0216209	0.9518735	1.0961228	1.2637847	1.2469721	1.1956041	1.4318604	1.2053457	0.9709304	0.9268347	0.9118869
Nucleotide diphosphate kinase beta isoform	0.748705	0.7933130	0.9347583	1.2246327	1.0655922	1.2703601	1.2078403	1.3596091	1.2880648	1.3621202	1.0987982	1.1689168	0.8403223
Gad6153	0.9880135	0.9995397	1.0338845	0.9757027	0.8928386	1.0129519	1.0114967	1.0078114	0.9880363	0.97384363	1.0866754	1.0849292	0.95854324
Insulin-like growth factor binding protein 1	0.8996103	0.9143368	0.9048118	1.121623	1.233471	1.7269878	1.3567576	1.5138423	0.49048477	0.58555424	0.5075451	0.43073258	0.43577506
c-H-ras	0.8715734	1.1844638	1.2457168	1.4055188	1.0461475	0.88756015	1.0280889	1.1414586	1.1798166	1.2665216	0.8798827	0.7846387	0.9970922
N-hydroxy-2-acetylaminofluorene	0.9146696	0.5723575	1.0113008	0.880556	1.0506246	0.98989516	0.80907696	0.7482172	0.78544824	0.81821836	0.5527215	0.50914973	0.52591175
sulfotransferase (ST1C1)	1.3536246	1.417902	1.247416	1.4187208	1.5976675	1.9553368	1.5744613	1.4439588	1.6665143	1.4216216	0.91740453	0.8385651	0.83249515
Phase-1 RCT-52	1.341386	1.016812	0.7721893	0.7588903	0.8585815	0.5593436	0.81498027	0.58555424	0.49048477	0.58555424	0.5075451	0.43073258	0.43577506
Alpha 1 - inhibitor III	1.2370519	1.191826	1.269579	1.328235	1.1813282	0.97853045	1.1554247	1.1404034	1.164246	1.1802863	1.1992493	1.5760287	1.8360548
Sterol carrier protein 2	0.88262235	0.7021413	0.7211879	0.8492753	1.1219102	1.2482643	1.1317321	1.2512108	1.1947898	1.039753	1.0578291	1.2896171	1.3252044
Organic anion transporter 3	0.86525714	0.77884305	0.74583155	1.0481452	1.2375424	0.8506413	1.0269765	0.9342451	1.4075532	1.105812	1.0096425	0.8956276	0.9877735
Calgranulin B4	1.189788	1.3530902	1.4228779	0.9246028	1.2028279	0.88879507	0.88117496	0.99461704	1.0927898	0.8679478	0.920213	0.89912176	0.8978876
Phase-1 RCT-182	1.3114224	1.3213589	1.3240888	1.0204314	1.1412052	0.8888454	0.88117496	0.99461704	1.0927898	0.8679478	0.920213	0.89912176	0.8978876
Calgranulin B6	1.2397252	1.5066234	1.328086	1.1989986	1.2720841	1.1315608	1.0342352	0.88879507	1.0927898	0.8679478	0.920213	0.89912176	0.8978876
Adenylate dehydrogenase, microsomal	1.3877952	1.0944243	0.8104059	0.8328923	0.8580888	0.7384319	0.7384319	0.8328923	0.8580888	0.7384319	0.7384319	0.8328923	0.8580888
Phase-1 RCT-128	0.7888429	0.6539396	0.7603057	0.9416698	0.8416698	0.8416698	0.8416698	0.8416698	0.8416698	0.8416698	0.8416698	0.8416698	0.8416698
Phase-1 RCT-102	1.5018861	1.1314883	1.0357642	0.98307453	0.91882326	0.86406846	1.0082976	0.8501017	0.8501017	0.8501017	0.8501017	0.8501017	0.8501017
Preproalbumin, sequence 2	1.2568711	0.8507495	0.9307453	0.91882326	0.86406846	1.0082976	0.8501017	0.8501017	0.8501017	0.8501017	0.8501017	0.8501017	0.8501017
Acidophorin A1	1.2637637	0.7715077	0.4632343	0.9651112	1.1803931	0.9651112	1.1803931	0.9651112	1.1803931	0.9651112	1.1803931	0.9651112	1.1803931
Phase-1 RCT-10	1.005092	1.2905044	1.4563944	1.4284807	1.1849213	1.0438403	0.8561277	0.64067954	0.7973062	0.7094181	0.8843437	1.3895514	1.2015344
Phase-1 RCT-48	1.4841201	1.1909412	1.103846	0.9820308	0.8300484	0.7845645	1.0097238	0.81403923	0.7211475	0.6703909	1.1427878	0.92553813	1.1278162

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Phase-1 RCT-168	1.2298381	1.2343104	1.1068872	1.072905	1.2174448	1.1077245	1.3561	1.0874873	1.1549605	1.1103178	0.8115332	0.7769997	0.8228663
Phase-1 RCT-169	1.1601619	1.1855594	1.07521	1.1038438	1.0823879	0.9628961	0.91610396	1.1679247	0.89513135	0.8890216	1.2805486	0.7769997	0.8228663
Phase-1 RCT-170	1.6305313	1.5320668	1.9328371	1.1337541	1.3225758	0.9006729	0.52026544	0.8334915	1.2121047	0.8077248	1.2805486	1.2769441	1.2011054
Phase-1 RCT-171	1.4291129	1.042626	1.0991402	0.90288015	1.0508248	1.2468704	1.4246466	0.8164644	1.0451744	1.165332	1.0063359	1.1497546	0.8218822
Phase-1 RCT-172	1.2987891	0.28988772	1.5152373	0.9071934	1.1920674	0.9769893	0.8170202	1.6019721	0.6881851	0.8602003	2.0085604	2.6036627	1.8281625
Phase-1 RCT-173	1.237645	1.1181105	0.95176506	0.98763746	1.4814453	1.4855666	0.83702574	1.1791488	1.2853419	1.192021	1.0344296	1.0943284	0.8220951
Phase-1 RCT-174	1.3059399	1.383947	1.3235958	1.1147693	1.1616994	1.1500545	0.9834033	1.931208	0.8923602	0.8910005	1.3218153	2.5837655	0.8891937
Phase-1 RCT-175	1.3056396	1.0356433	1.0519078	0.8556978	1.688782	1.3719628	1.0900314	1.204021	1.7639638	0.5498328	1.3364584	1.1575811	1.1208429
Phase-1 RCT-176	0.8973875	1.0334107	0.91172624	0.8758251	0.7312341	0.96059227	0.8854337	0.7643766	0.7540086	0.88805546	0.77208064	1.4679813	1.4409843
Phase-1 RCT-177	1.2686024	0.9871813	0.8931378	1.162832	1.0714364	1.2163238	0.97033135	0.66179574	0.7071478	0.8901339	1.1573234	1.1572021	1.2433855
Phase-1 RCT-178	1.0763378	1.001851	1.3385983	1.162832	1.0714364	1.2163238	0.97033135	0.66179574	0.7071478	0.8901339	1.1573234	1.1572021	1.2433855
Phase-1 RCT-179	1.2734405	0.7374738	0.7437181	1.1595989	0.90776366	0.81947584	0.7813593	0.8649714	0.7219137	0.831534	0.9670215	0.49816206	0.3983768
Phase-1 RCT-180	1.2734405	0.7374738	0.7437181	1.1595989	0.90776366	0.81947584	0.7813593	0.8649714	0.7219137	0.831534	0.9670215	0.49816206	0.3983768
Phase-1 RCT-181	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-182	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-183	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-184	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-185	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-186	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-187	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-188	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-189	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-190	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-191	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-192	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-193	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-194	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-195	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-196	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-197	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-198	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-199	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-200	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-201	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-202	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-203	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-204	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-205	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-206	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-207	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-208	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-209	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-210	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-211	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-212	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-213	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-214	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-215	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-216	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-217	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-218	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-219	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-220	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-221	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-222	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-223	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-224	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-225	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-226	1.065481	1.4900931	1.0102762	1.2340868	1.2483753	1.1068895	0.77932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207	0.93932207
Phase-1 RCT-227	1.065481	1.4900931	1.0102762	1.2340868									

Phase-1 RCT-158	0.7358871	0.8807951	0.8109457	0.81441715	0.92686238	0.9850338	0.8903373	0.8904204	1.0094933	1.0544662	1.0738632	0.9978081
Phase-1 RCT-113	0.9000228	0.83981574	0.89869658	0.94673026	0.8718956	1.0485768	0.97104496	1.0765477	1.0519762	0.9181402	1.0135715	1.0980237
Endogenous retroviral sequence, 5' and 3'	0.59552345	0.62844804	0.6663977	1.8134204	0.8051625	0.8944768	0.7615338	0.7010698	0.7797112	1.1968359	1.1039474	1.257168
LTR												
Beta-actin	0.7401255	1.1042328	0.8703842	1.0229883	0.7157172	1.3100652	1.0077792	1.2239356	1.1447319	1.3180724	1.3470838	1.7217063
Phase-1 RCT-65	0.9606985	1.1371081	0.8500738	1.0763657	0.96349233	1.2357286	1.051156	1.1214749	1.09478	1.064753	1.1693969	1.1665802
MHC class I antigen RT1.A1(f) alpha-chain	0.9128658	1.4849708	1.5554982	1.1489924	1.1439785	1.4190293	1.2892746	1.020721	1.018985	1.3597719	1.3246568	1.0519766
Bax (alpha)	0.8780714	1.1074398	1.1316492	1.026578	0.84889754	1.2040212	1.0290688	1.0579376	1.0612734	1.1220024	1.1137072	1.146188
Carbonic dehydratase	1.062318	1.0359313	0.95573765	0.98551985	0.9584668	0.96134573	0.91597694	1.0596359	1.1249553	0.96204	1.0129995	1.0348394
Beta-actin sequence 2	0.9034704	1.1387154	1.0333424	1.2497374	1.0894217	1.1448286	1.0333694	1.0109838	0.98806804	1.0288162	1.0217551	1.2001052
Interleukin-10	0.7648811	0.9613978	0.8707514	0.9777113	0.9046282	1.0216693	1.1310612	1.1134707	0.94676745	1.299325	1.1897255	1.1789443
Phase-1 RCT-181	0.8401624	1.0542101	1.0565668	0.9455711	1.2281837	1.5182564	0.997374	0.9587112	0.9683787	0.88504483	0.7204084	0.854606
Phase-1 RCT-111	0.9198883	0.8227721	0.79570065	0.8178414	1.0004549	1.0168792	0.8205674	0.7273818	0.86527068	0.7054835	0.7502869	0.78443235
Apoptosis-regulating basic protein	1.2431304	0.9936587	1.1118445	0.95937853	0.92151004	0.89403087	0.8205674	0.7273818	0.86527068	0.7054835	0.7502869	0.78443235
Glutathione peroxidase	1.518813	1.6229451	1.1123204	0.85060704	1.2445588	0.94034284	1.5200668	1.0379813	1.0393149	1.2344102	1.339453	1.2839687
Phase-1 RCT-289	0.79097027	0.87950238	0.854141	0.73717433	0.75508027	0.9364927	0.8651457	0.80338484	0.89818194	0.9926893	1.0483355	1.0119119
Phase-1 RCT-47	1.1739448	1.1134593	1.2097906	1.1134782	1.143668	0.9147898	1.008581	1.0849711	1.0664178	1.1285589	1.1283189	1.4611645
Sulfotransferase K2	0.79442835	1.1528497	1.2312864	0.8440246	0.8840452	0.7790541	1.197387	0.705368	0.8943264	0.8904729	0.958444	0.94085
Calgranulin B9	1.076592	1.1528497	1.2312864	0.8440246	0.8840452	0.7790541	1.197387	0.705368	0.8943264	0.8904729	0.958444	0.94085
Phase-1 RCT-123	0.8051783	0.6988835	0.857288	0.82508504	0.937116	0.8280035	0.8541368	0.9384208	0.9371893	0.76483025	0.69948075	1.0050184
Phase-1 RCT-98	1.0624834	0.92400557	0.70015645	0.82508504	0.937116	0.8280035	0.8541368	0.9384208	0.9371893	0.76483025	0.69948075	1.0050184
Aquaporin-3 (AQP3)	0.9177585	0.80286753	0.861788	0.84955037	0.94165653	0.90821433	0.8511063	0.83448913	0.88758947	0.8875327	1.2518944	1.2608089
Steryl-CoA desaturase, liver	0.880401	0.14997302	0.09074888	0.09381872	0.6512865	0.62645817	0.43046883	0.34804508	0.7088729	0.09759899	0.3057141	0.27387893
Phase-1 RCT-64	1.38886623	1.2080335	0.97263118	1.0089219	1.2650424	1.2913185	1.2294636	1.1242884	1.3558815	1.1200256	1.1097777	1.1989122
(1) Gene expression data for 24 hour												
timepoint are presented as mean ratio of												
treatment/control for all 24 hour predictive												
genes (Table 5).												
(2) Compound and dose abbreviations as in												
Table 1.												
(3) Individual animal number												
(4) Liver inflammation classification for												
compound-dose group at 72 hr: yes=ncr,												
necrosis observed; yes=both, necrosis with												
inflammation observed, no, no histopathology												
observed												
(5) Predictive gene (as in Table 5 and as												
included in Table 26)												

Table 29

Table 29. Expression Data for 24 Hour													
Timepoint (1)	PHEN 80 1334	PHEN 80 1335	PHEN 80 1336	PEG 5000 144	PEG 5000 145	PEG 5000 146	PUR 38 24	PUR 38 25	PUR 38 26	PUR 150 34	PUR 150 35	PUR 150 36	QUIN 25 2544
Compound/Dose (2)	no	no	no	no	no	no	no	no	no	no	no	no	no
Animal Number (3)	no	no	no	no	no	no	no	no	no	no	no	no	no
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	no	no	no	no	no	no	no	no	no	no	no	no	no
Gamma-actin, cytoplasmic	0.7751247	0.10170078	0.8968741	0.65441525	0.7689874	0.9263812	1.2849373	1.1303768	0.87413156	0.88734083	0.9633074	0.9028388	0.612314
Phase-1 RCT-145	1.5420861	1.2157737	0.94032466	0.918947	0.9606311	0.9616887	0.81447935	0.8864563	1.0455493	0.9726524	0.88756204	0.9633834	0.9840822
Gd0445	1.6145211	2.2344668	1.8680187	1.263874	0.8794356	1.018031	1.2352792	0.8365448	1.0425459	0.713068	1.0560709	1.250975	1.0538925
Phase-1 RCT-78	0.94829553	0.87592224	0.96331453	1.2070189	0.85288167	0.8374993	1.084517	1.3102221	0.9358194	0.8833112	1.178431	1.2139638	1.0527768
Fas antigen	1.6840354	1.4177884	1.2209109	1.1484953	1.0751884	1.075027	0.6808766	0.7643318	0.8269191	0.8949409	0.9425469	0.8752446	1.1568498
Macrophage inflammatory protein-2 alpha	2.0506077	1.8953089	2.7863204	1.7266844	1.3984765	1.057463	1.225338	0.9602098	0.8677536	1.0913934	1.2430882	1.0232739	
Integrin beta1	1.7935728	1.9782509	2.031476	1.5421173	0.887663925	0.923847	1.2508307	1.03592235	1.0156817	1.001623	1.1781779	1.240021	1.0504164
Phase-1 RCT-207	1.5985605	1.4324657	1.3211188	1.064761	1.0537797	1.051076	1.0481902	1.1355007	1.0403031	0.8426988	1.2092897	1.1358478	1.0339313
Aspartate aminotransferase, mitochondrial	0.9589811	0.9376761	0.62533134	0.80880773	0.9120949	0.77853728	0.988003	1.1648784	1.0713575	0.83253928	1.0221827	1.0128065	1.0038037
Caselin-alpha	2.2045033	2.350422	1.059634	1.4988445	1.3797518	1.160755	1.026591	0.931359	0.9797704	0.96285743	1.0719141	1.0534831	1.1083649
Malto enzyme	1.5376767	1.3981359	0.981408	1.213785	1.024414	0.8232835	0.903159	1.6891152	1.6457768	2.216333	0.7097603	0.7623493	1.0928802
Phase-1 RCT-30	0.5430728	0.601803	0.4629801	2.8876631	1.124097	0.9146617	1.7900468	1.0255039	0.88705594	0.8570927	0.97846588	0.8773895	1.0811031
Hematoxylin growth factor receptor	1.2143216	1.1496822	1.512188	0.9143418	0.9957587	1.02166	1.142854	0.9516687	0.88934634	0.7813586	1.0270408	0.965742	1.0379138
Phase-1 RCT-248	0.9048307	0.7248219	0.9280026	1.051517	1.07637	1.1334776	1.068738	1.0116653	1.1498897	1.1291045	1.3615165	1.1674701	0.91526157
Phase-1 RCT-249	0.78683826	0.8168164	0.91145295	1.1487776	1.2766461	1.0376818	1.068738	1.0116653	1.1498897	1.1291045	1.3615165	1.1674701	0.91526157
Phase-1 RCT-37	1.3757353	1.2542653	1.316131	1.2276284	1.0963138	1.0376818	1.068738	1.0116653	1.1498897	1.1291045	1.3615165	1.1674701	0.91526157
Organic cation transporter 3	0.65236734	0.7018866	0.83572125	1.1851823	1.0781773	1.0039755	1.0804435	0.89931896	1.0184904	0.93730313	1.3232245	1.1687635	0.8650222
GUS ribosomal protein L6	0.65510888	0.7346333	0.82743186	1.0071105	0.9131455	0.9945142	1.2056105	1.000431	1.0448604	0.93730313	1.3232245	1.1687635	0.8650222
Zinc finger protein	0.78276285	0.59933485	0.70621794	1.167741	1.133443	1.2241381	0.7768126	0.9931216	1.1407169	0.93730313	1.3232245	1.1687635	0.8650222
Calgranulin B2	0.8557577	0.9537554	0.9278324	0.8941927	0.8993645	0.9057373	1.218803	1.1216255	1.173063	0.945337	1.0774144	1.0475887	0.84018914
Phase-1 RCT-92	1.3105171	1.6738713	1.3931935	0.8917427	0.82168344	0.71159065	1.0344301	1.0343043	1.0095199	1.160401	1.2304094	1.5456824	1.0428363
Phase-1 RCT-115	0.53692865	0.63860485	0.8958713	0.8470675	0.8005772	0.8987079	0.742874	0.8431694	0.99161273	1.1340371	0.7878187	0.7569087	0.8888823
Meirin F/G	1.8428885	2.598575	1.9163446	0.9593435	0.8073112	0.8942828	1.3238013	1.1379579	1.1654859	1.163282	1.4217008	1.884145	1.1417449
Meirin F/G	1.005843	1.2818294	0.8953324	0.9876332	0.87949857	1.1212496	1.0897698	1.1360969	1.1633751	1.0919104	1.3273002	1.1794827	0.8652686
Meirin F/G	0.80492204	0.7805751	0.78822524	1.081101	1.2240592	0.9605133	1.2898413	1.1200403	1.079242	1.031585	1.269305	1.2527112	0.8008151
Meirin F/G	1.495992	1.9371592	1.2632524	1.0186112	0.944882	1.1675947	1.1223699	1.0800655	1.0390518	0.9509453	0.94308174	0.9853438	0.8895188
Phase-1 RCT-79	0.8542045	0.73847028	1.1704977	0.83211538	0.5282228	0.6469649	0.8256768	0.8751089	0.83014554	0.8088567	1.1668607	0.92942494	1.3827358
Sorbitol dehydrogenase	1.8527681	2.640336	2.0571508	1.1320143	0.80772038	0.8227103	0.8608571	0.95450675	0.98278594	1.1140468	0.87940115	0.84163594	1.0561428
Phase-1 RCT-24	1.1109432	1.310613	0.57667038	0.85771114	0.89595654	0.8654953	0.8635012	1.1749501	1.158545	1.0782818	1.2481483	1.1628058	0.9415951
Calgranulin B1	0.4718441	0.6250872	0.57667038	0.85771114	0.89595654	0.8654953	0.8635012	1.1749501	1.158545	1.0782818	1.2481483	1.1628058	0.9415951
Elongation factor-1 alpha	0.96863867	0.8881233	0.82463485	0.87611863	0.734383	0.8054492	0.8334774	0.92168415	0.81339755	1.1606656	0.93488514	0.91593164	0.9808205
L-glutamate-gamma-lactone oxidase	0.9435668	1.198707	1.2215228	0.80096484	0.8901848	0.83245274	1.1534694	0.90893273	1.2379414	1.2679117	0.8740996	0.956871	0.9823581
Phase-1 RCT-33	1.5651839	2.1555805	1.9235353	0.9425645	0.74404895	1.050765	0.94653016	1.0390095	1.2379414	1.2679117	0.8740996	0.956871	0.9823581
C-Jun	0.88004024	0.7040316	0.8030351	0.89258828	0.74404895	1.050765	0.94653016	1.0390095	1.2379414	1.2679117	0.8740996	0.956871	0.9823581
Phase-1 RCT-233	1.0869283	1.1415285	1.2738779	0.78011966	0.8378728	0.9138994	0.822591	0.8774204	0.8088821	1.1700587	0.91766754	0.80028104	1.0077785
Phase-1 RCT-242	1.4703559	1.8158729	1.3518225	1.3978821	1.4233374	0.90082717	0.98456484	0.9700783	1.0478485	1.0485517	0.9553069	0.87127938	0.82155926
Phase-1 RCT-181	0.7146683	0.7412876	1.0285153	0.8608195	0.9387358	1.0020168	0.7300708	0.8744831	0.8898559	1.1257982	0.87465304	0.7705818	1.0240157
Phase-1 RCT-185	0.5531054	0.44365102	0.6615876	0.71929417	0.6009344	0.7856274	1.2947125	1.3383683	1.251327	1.2782363	1.197867	1.1729552	0.8063707
Phase-1 RCT-179	0.83123354	0.88761255	0.73424894	0.8877846	0.94430035	1.1158607	0.9817542	0.9861224	1.0304334	0.89519405	1.0537989	0.9019953	0.8878042
Phase-1 RCT-144	1.0787089	1.1778547	0.8418925	0.8910268	0.92803174	0.87882325	0.94566625	1.09673	1.1624205	1.0807217	1	0.928467	1.0332111
Phase-1 RCT-225	0.91175208	0.81684428	0.857571	1.0033299	0.9501804	0.9540928	0.806223	0.8581718	1.184879	1.1036737	0.86157626	1.1270441	0.9828654
Phase-1 RCT-225	0.77902836	0.830626	0.83376924	0.8579274	0.83964678	0.8365924	1.1244528	1.135809	1.077389	1.218027	1.0403662	0.91201353	0.82749288
Phase-1 RCT-225	1.094539	0.948311	1.1348211	0.9855401	0.8684298	0.945421	1.0444655	1.0035568	1.1113387	1.1600725	1.2037074	1.0045232	0.91130894
60S ribosomal protein L6 (allamale clone 1)	0.9053487	1.041209	1.6332226	0.8906273	0.7412758	0.6040449	1.100314	1.0975437	1.0962585	1.3462931	1.2587037	1.0853671	0.91883874
Beta-tubulin, class I	1.4738279	2.493568	1.4167848	0.7847978	1.1643655	1.0887889	1.0802869	0.8333289	0.6475833	0.6936478	1.2282144	1.3631281	0.88072717
Multidrug resistant protein-2													

Table 29

Phase-1 RCT-49	0.90340664	1.0987226	1.0352849	0.9736837	0.98418114	0.9883083	0.83615047	0.85741147	1.0312035	1.0282353	1.0053183	0.9464631	0.98910654
Calgranulin B3	1.6787869	1.5124265	1.3987817	1.1620291	0.984681	1.0012627	0.95930374	0.94154066	0.97907186	0.94154066	1.3758757	1.29126	0.9730285
NADP-dependent isocitrate dehydrogenase, cytosolic	0.6836266	0.7768374	0.76291224	0.9667488	1.126956	1.1269422	0.9549355	1.0812529	1.1611418	1.1026538	1.3526653	1.1480388	1.006864
Oxanone binding protein 1	1.1796798	1.6281503	1.2903521	1.0973136	0.92557527	0.92474145	1.2680889	1.1625785	1.0530407	1.27856335	0.97650883	1.1652224	0.9456235
Sodium/bile acid cotransporter	0.42440224	0.49488822	0.6249808	0.5920373	0.9208087	1.2590373	1.1133968	1.2177778	0.9549348	0.84897137	0.44539407	0.43020445	0.84064668
Phase-1 RCT-174	0.76524608	0.6515352	0.9565085	0.9624036	0.9710325	1.014865	1.233394	0.9885258	1.282749	1.3712542	1.2548008	1.0087531	1.0428594
Phase-1 RCT-177	0.76186424	0.58034194	0.89679736	0.8499015	0.888875	1.0042133	1.0601913	0.9597565	1.411189	1.4653321	1.1744456	1.0272544	1.0027592
Inositol polyphosphate multikinase (pmk4)	0.65068805	0.4682917	0.79105216	0.8768913	0.7855412	1.0590342	1.2500962	1.2125511	1.2161921	1.3142874	1.1579235	1.0486624	0.8563345
Phase-1 RCT-256	1.1059732	1.1464818	1.088121	0.7778016	0.8039603	0.8658218	0.9705028	0.9894408	1.2411373	1.1835626	0.94322033	0.7713162	0.98353884
Equilibrative nucleoside/nucleoside-sensitive nucleoside transporter	0.52561474	0.6546604	0.8002755	1.0304985	1.0830164	0.86882175	1.1053175	0.98312056	0.8751978	0.6500009	0.9205111	0.7264434	0.9230686
CDK102	0.9991682	1.1521218	0.8982778	0.9876988	0.959982	1.1692565	1.1709025	1.1247188	1.1708792	1.284788	1.1413273	1.0789552	0.9789552
Phase-1 RCT-209	0.77176684	0.6123634	0.7761478	0.9978191	1.1239698	1.1622408	1.1133968	1.1709025	1.1708792	1.284788	1.1413273	1.0789552	0.9789552
NADH-cytochrome b5 reductase	0.71081245	0.6755267	0.68508214	0.6391691	0.8749484	1.1622408	1.1133968	1.1709025	1.1708792	1.284788	1.1413273	1.0789552	0.9789552
Dynamin-1 (D100)	0.7426757	0.61743206	0.74121965	1.0895035	0.8601084	1.1260041	1.2631251	1.4042483	1.4518655	1.4027815	1.1441544	1.2282658	0.9602487
Sensonec marker protein-30	0.525510	0.42270705	0.930963	0.91436545	0.7294056	0.8928812	1.2650164	1.4567498	1.4480064	0.7115148	1.4083627	1.0917314	0.8071643
Phase-1 RCT-89	0.7403539	0.4825655	0.7285291	0.9235927	1.0681058	1.1811488	1.0716478	0.9823397	1.1261408	1.0327787	0.9030214	0.89048528	0.914287
Carbamate palmitoyl-CoA transferase	1.8709424	1.8192694	1.5115345	1.3359747	1.2053642	1.2181748	0.86613406	0.90372908	0.8579229	1.0202721	0.88405515	0.8399287	1.1546395
Alpha-2-microglobulin	0.41066796	0.29802874	0.500155	0.88991255	0.6129781	0.9370444	0.6393927	1.0821575	0.925944	0.7798778	0.91434634	0.87306568	0.813275
Apolipoprotein CIII	1.1424757	1.0567625	1.0036826	0.8377446	0.7268068	0.8652024	0.9834256	1.0631495	0.83335514	0.7649889	0.7822566	0.75123125	1.1180836
Cathepsin L, sequence 2	0.855082	0.8698882	0.8612172	1.0352339	1.1032578	1.1170532	0.9613406	0.8753056	0.87318325	0.9613406	1.6086571	1.4191232	0.8655583
Phase-1 RCT-141	1.7052307	1.3965636	1.4972514	1.6501378	2.1751804	1.2028951	0.9483875	0.82340705	0.8118818	0.9084335	0.8827328	1.2979517	1.0544388
Phase-1 RCT-288	0.8248044	0.5687734	0.5234442	0.92078924	0.76412804	0.85491127	0.82542336	0.9454408	0.8233009	1.0151608	0.70844823	0.89677983	1.03377
Endothelin-1	1.7635861	1.9514292	1.5456232	1.2818987	1.0728978	1.2759002	1.055731	1.072391	0.9660257	1.0721802	1.1153284	1.2753117	1.0153232
Phase-1 RCT-282	1.4923133	1.775318	1.372878	0.8669149	0.9088156	0.9162484	1.2656323	1.1072391	1.09335947	1.0201861	0.88425404	1.5231083	1.0531036
Phase-1 RCT-140	1.6720767	1.557481	0.9342238	1.197858	0.9759584	0.9977018	0.9817018	0.95789504	0.97119784	1.0578036	1.0578036	1.070287	1.0582428
Cyclin D1	0.7986657	1.190164	0.8326394	0.72673106	0.8327274	0.67947334	1.2481043	1.016808	1.033907	1.0503354	2.6181223	2.014752	0.7834884
Phase-1 RCT-281	0.81237878	0.86745083	0.91972585	1.0311635	1.11817	1.0358952	0.8770577	0.8716451	0.8572715	0.7841565	0.8870143	0.78247434	1.026547
Phase-1 RCT-287	0.4940482	0.39530325	0.6532769	0.7888357	0.87651046	0.46748134	0.28542545	0.4417873	0.784347	0.39859167	0.3068605	1.0242488	0.962488
ATP-dependent glucocorticoid-receptor translocation promoter (Gyk)	0.45230806	0.3220464	0.4972308	0.7508533	1.0022451	0.9694675	0.9700376	1.1065506	1.077117	1.2170333	1.0295528	1.007362	0.8076551
Pyruvate kinase, muscle	0.8277019	0.94248605	0.9132986	1.8802722	1.0500202	0.9304692	1.0732787	0.87306905	0.9827813	0.7240837	1.8328377	1.5357057	0.9472378
PAR Interacting protein	0.8351138	0.8470702	0.8845827	0.920735	0.8767533	0.92659678	0.8988333	1.022275	1.0279727	1.0413941	0.9576856	0.9450212	0.8816014
Nucleoside diphosphate kinase beta isoform	0.8606511	1.0694425	0.94530976	1.0033407	0.81309944	1.1428217	1.0886893	1.241622	1.3093783	1.6816473	1.681652	1.182782	1.182782
Gadd153	1.3397591	1.609979	1.2041459	1.1548932	1.0708724	0.88414747	0.84569865	0.98113598	0.9850955	0.98113598	0.83236754	0.8659849	0.8659849
Insulin-like growth factor binding protein 1	0.9227019	0.94248605	0.9132986	1.8802722	1.0500202	0.9304692	1.0732787	0.87306905	0.9827813	0.7240837	1.8328377	1.5357057	0.9472378
c-H-ras	1.0756005	0.91318686	1.045375	1.1841125	1.0201088	0.8989856	0.7691484	0.819843	0.8676842	0.9585515	0.9057145	0.8208283	1.1245339
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	0.33773658	0.5087689	0.48030058	0.8006225	1.082015	1.1671567	1.1105265	1.0789766	1.1346847	0.81819208	0.9586896	0.9586896	0.77661325
Phase-1 RCT-52	0.8226683	0.701213	0.8903588	0.8221805	0.95248166	0.8687416	1.0604991	1.1056898	1.0875318	1.1864817	1.2265075	1.4329345	0.79139745
Alpha 1 - inhibitor III	0.18576286	0.21702619	0.30865493	0.7085946	0.51487895	0.9713823	0.5010947	0.7272087	0.6850058	0.8955242	0.46015564	0.6268825	0.7907036
Steroid carrier protein 2	0.8786273	0.9245398	1.2789896	1.0387591	0.8224874	0.7768334	1.2802987	1.1358793	1.0818988	1.0068676	1.1911036	1.3468842	0.9811673
Organic anion transporter 3	0.63891004	1.3748978	0.7738117	0.5952773	0.76925007	0.98728814	1.3760134	1.1520414	0.9718759	0.9753391	0.9940133	1.295888	1.0359397
Calgranulin B4	0.7023516	0.4500408	0.731053	0.8157693	0.7692389	0.77143455	0.7349884	0.87838654	1.0243044	0.7318093	0.78900146	0.81453234	0.8516482
Phase-1 RCT-182	0.850215	0.70126766	0.596549	0.9523336	1.1499349	1.110083	1.0259411	1.1687398	1.0248008	1.1517327	1.0432426	0.9533665	0.930076
Calgranulin B9	0.8800016	1.0339511	0.8533495	0.6555555	0.6890487	0.77539843	0.9655778	1.1589131	1.0920713	1.0664564	1.1024855	1.0470881	1.0013036
Aldehyde dehydrogenase, microsomal	1.0179797	0.826531	1.0433149	0.7985667	1.0276314	1.0588164	1.0276314	1.0588164	0.7681475	1.067287	1.0000972	1.0611748	1.0611748
Phase-1 RCT-128	0.5525404	0.65987647	0.7240809	0.9529242	0.757391	1.017798	1.3428877	1.4284463	1.574268	1.3951895	1.1270227	1.1694187	0.9733748
Phase-1 RCT-102	1.3587828	1.1509986	0.90651226	0.8433005	0.5028794	0.4734413	0.759895	0.8703357	1.0030366	0.86839896	0.7798803	0.8260614	0.8448024
Preproalbumin, sequence 2	0.63889274	0.40874577	0.6904738	0.7885974	0.8094539	0.62887366	0.8101246	0.70728314	0.9021241	0.77915204	0.7437552	0.73337525	0.68382368
Aggiprotein All	0.6481661	0.89084353	0.8356855	0.52714355	0.5756288	0.7667256	1.0058465	1.0386091	1.0943185	0.9561453	0.8712375	0.86698683	0.8463565
Phase-1 RCT-10	0.6709882	0.5903469	0.6502797	0.89473355	1.0821829	1.3471174	1.1366465	1.1120347	1.220819	0.9564818	1.1729807	0.94311315	0.92593306
Phase-1 RCT-48	1.1332221	0.7038958	1.2846575	0.9201945	0.59912443	0.6083513	1.3321055	1.3069513	1.39749	1.3607554	1.8720998	0.86727595	1.8720998
Phase-1 RCT-8	0.57673603	0.4184549	0.690783	0.8420073	0.8383393	1.0357663	0.7205276	0.72588044	0.85410484	0.76184985	0.74081314	0.8186643	0.7424074

Phase-1 RCT-168	0.660021	0.884811	0.90763295	0.96241623	0.9284378	1.0132192	0.6931724	0.8581658	0.8898843	0.9995847	0.82069063	0.78072897	1.0064498
Phase-1 RCT-46	0.171419	0.6941021	1.083092	0.969002	0.9749044	1.0346506	0.630362	0.83683795	0.86343557	0.94811765	0.7322763	0.9431163	1.1543163
Beta-alanine synthase	1.20764	0.86338644	0.82723624	1.2820066	0.734028	1.144656	0.8469815	1.2141876	0.9755405	1.298506	1.4424802	1.311592	1.4971808
Phase-1 RCT-288	0.85939863	0.8412798	0.8505126	0.93238892	0.734028	0.7843578	1.17137	1.2054237	1.3478404	1.1029518	1.1488089	1.0544476	0.8720876
Carbonic anhydrase III	0.8579221	0.1841041	0.90090218	0.5692582	0.3945586	0.8492805	1.331161	1.787873	1.232781	0.9278815	1.5831883	1.2893487	0.4595247
Phase-1 RCT-291	1.0875035	1.1379033	0.90090218	0.7117708	0.7457881	0.76791894	1.031639	1.08992387	0.891543	0.9750606	0.71638406	1.0308155	
Carbonic anhydrase III, sequence 2	0.5667108	0.666213	1.0931274	0.7815611	0.80307245	0.90147257	0.69677824	1.08992387	0.891543	0.9750606	0.71638406	1.0308155	
Phase-1 RCT-271	0.9197391	0.7593402	0.8139433	0.87135756	0.78482806	0.7767287	1.0659771	1.0659771	0.92832147	0.9902969	1.2542812	1.0111132	
HMG-CoA synthase, mitochondrial	0.1283333	1.0351063	1.0483416	0.6513197	0.8280523	0.7553587	0.8838274	1.0447433	0.92832147	0.9902969	1.2542812	1.0111132	
Phase-1 RCT-189	0.8940215	1.1653336	1.2709137	1.0007166	0.8105336	1.0086897	0.6823276	0.7704001	0.7518847	0.8057505	0.8057505	1.1653336	
Phase-1 RCT-40	0.8971276	0.79308873	0.8744047	0.9082475	1.2208558	1.3333471	0.833988	0.9155852	1.0219839	0.8395569	0.8701866	0.8177124	0.81812924
Uricase	0.40037867	0.46831717	0.5308691	1.2585374	1.1614285	1.1283952	0.9311843	0.870728	1.0071808	0.7850026	0.87276354	0.7860936	0.75898
Paraoxonase 1	0.22764438	0.48748118	0.2878798	0.6884473	0.7016091	0.93017393	0.93742275	0.87730825	0.90302394	0.7476889	0.96572604	0.8306585	0.7005753
Liver fatty acid binding protein	0.40239152	0.5264762	0.389014	0.5882145	0.5882145	0.77631533	1.0385555	0.7338476	0.81420773	0.71195435	0.6314094	0.48111537	0.6978714
Preseitin-1	0.17259859	0.18975354	0.309057	0.7345077	0.5410899	1.0051391	0.48838218	0.71818984	0.67619103	0.9089016	0.44669604	0.53474865	0.85318742
Phase-1 RCT-38	0.921813	1.4052379	0.8311333	0.7317744	0.7544671	0.8742824	1.1942757	1.1176802	1.3503039	1.4075843	1.8011557	1.175128	0.8473301
Phase-1 RCT-270	0.59730095	0.75631183	0.48375957	0.9457537	1.0822341	1.190398	1.0282761	1.1621456	1.0632936	0.91295856	0.8972406	0.8483733	0.73763494
Transferrin	0.21286875	0.21396582	0.3407878	0.7236181	0.6545037	0.9452861	1.3479048	1.288237	1.1983573	0.5930988	1.3110855	1.302487	0.5776576
Hepatic lipase	0.3910347	0.4328326	0.44016546	0.684503	0.6244513	0.68897263	0.7212762	0.8440919	0.908082	0.7859808	0.9005423	1.0174009	
Cytochrome P450 11A1	1.0707425	1.4228867	1.1604056	0.6508808	0.92865187	0.96376175	1.324726	1.4155917	1.0799938	0.85475286	0.52488514	0.6416678	0.8132473
Phase-1 RCT-175	0.6245756	0.5419659	0.7105068	0.8894925	0.9421827	1.1068927	1.4425417	1.0941454	1.0223312	0.9163296	1.4112492	1.1801182	0.90780814
Phase-1 RCT-117	1.789768	0.8548924	0.8457238	0.9682721	1.266158	1.448117	0.869437	1.238357	0.98380435	1.242084	1.43396	1.1158932	1.4738036
Phase-1 RCT-137	0.3248517	0.2884718	0.4473648	1.0338628	0.8551493	0.8923233	1.105427	1.2337884	1.2455503	1.1978705	1.0128396	0.942387	0.82584107
Melanoma-associated antigen ME491	1.0990117	1.325252	1.2436352	1.158406	1.192027	1.367134	0.85888417	1.0414817	1.009538	1.3421401	1.1065127	1.0722913	0.9930476
Phase-1 RCT-12	0.988793	1.1604182	1.3559804	0.8236205	0.86110497	0.7859552	1.1529178	1.08857	1.009538	1.3421401	1.1065127	1.0722913	0.9930476
Phase-1 RCT-152	0.7058618	0.9417084	0.8778794	0.88332715	0.9424296	1.1886689	1.4358508	1.2055308	1.3466654	1.1473188	1.4201219	1.3816892	0.78038555
14-3-3 zeta	1.3472115	0.2428762	1.3076937	0.9476872	0.89242813	0.83272846	0.9588885	0.9501032	0.9520241	1.1135389	1.3315772	1.1425168	1.2764939
Cytochrome P450 2C23	0.51602936	0.5058299	0.66454506	0.84236187	1.00633	1.18715328	1.0345664	0.82180827	1.0435566	0.8773744	0.6927841	0.68658953	0.98714995
Voltage-dependent anion channel 2 (Vdac2)	1.263572	1.2637512	0.2953727	1.0058327	0.94018634	1.1573129	1.43478384	1.3778384	1.3530181	1.086432	2.0538628	1.9678106	0.9171631
Phase-1 RCT-154	1.1625053	1.0583947	0.9785593	1.0248619	1.017515	0.9838216	0.858128	0.91495544	1.0516373	0.9491661	1.2580551	1.1580461	1.0078473
Superoxide dismutase Mn	1.2328404	1.5455337	1.8652498	1.1657478	1.3223875	1.0918903	1.2202337	1.1622866	1.0975716	1.253161	1.4823301	1.5278868	1.157783
c-myc	1.8423081	2.0737143	1.584699	1.286979	1.032762	1.1537318	1.6251683	1.1607179	1.3247387	1.2747094	1.084855	1.1776052	1.0842324
Phase-1 RCT-196	0.4888467	0.34538454	0.52773297	0.9997074	0.9197833	1.0132471	0.74715604	0.8586351	0.7142164	0.85076207	0.8080468	0.73404014	0.85886871
Cyclin G	1.829508	1.8582288	1.3973461	1.2433742	1.0795817	0.93282683	1.3733817	1.2240802	1.2355131	1.0183083	3.0348842	3.27404	1.0590874
Calgranulin B	1.5035176	1.785585	1.6874289	1.1903757	1.0844952	1.0749448	0.90514163	0.9817941	0.8837213	1.0510517	0.8917338	0.8625377	1.0124044
p53	1.1707462	1.0021985	1.0253423	0.90264698	0.8281052	0.6940784	1.357921	1.224991	1.3202843	0.99146708	1.5239137	1.3973541	0.8908311
Phase-1 RCT-205	1.2586653	1.6086789	1.3608786	0.86206995	0.8091777	0.8740804	0.89997125	1.021888	1.120857	1.1670783	1.0365773	1.0104114	1.0370883
Phase-1 RCT-98	1.1850681	0.9561259	1.2976503	1.0494736	1.0830935	1.1013256	1.2920259	1.1687708	0.8527527	0.86259237	1.0973424	1.1517892	1.1627322
Caspase 3	1.8112053	2.2565896	1.8804085	0.9659793	1.1012813	1.157303	0.8360038	1.0688215	1.0053688	0.9137441	1.0688215	1.131703	1.0682538
Alpha-tubulin	1.2841197	1.0585104	1.1558534	1.0608853	0.9707009	0.9798809	0.8551204	1.0443726	0.97385174	1.0541776	1.253122	1.2657864	1.0345238
Ribosomal protein L13A	0.76692655	1.5518144	1.1495544	1.0399258	0.80839676	1.048898	1.2094421	0.9842725	0.9388217	1.1446973	0.85097516	0.8100483	0.92524116
IgE binding protein	0.935704	0.74968214	1.2207836	1.0058168	1.103745	1.2448051	0.9465332	0.9184237	0.9785408	0.891368	1.398341	1.6314013	0.9828832
Phase-1 RCT-38	1.4129955	2.3038718	1.4080751	0.93973354	0.97810453	0.9700981	1.273827	1.0080364	0.9785408	0.891368	1.398341	1.6314013	0.9828832
Cofilin	0.68318154	0.45110648	0.76995314	0.89617544	0.857658	1.043321	0.828393	0.77117693	0.99331313	0.958019	0.7393745	0.9710126	
Heme oxygenase	3.2578213	2.1374784	5.6134162	1.323749	1.0404551	0.85887897	0.80088147	0.7288839	0.8279591	0.693206	0.5392975	0.9025846	
Phase-1 RCT-241	1.0871738	0.942003	0.8767905	1.1864891	1.3588008	1.0014669	1.0124931	0.9630087	1.0168425	1.0185623	0.95741874	1.0172418	1.075934
Ribosomal protein S9	0.47802043	0.46371424	0.61733218	1.286718	0.89893453	1.0017728	1.2472284	1.1852898	1.1293916	1.0733988	1.459048	0.9728019	1.0030357
Phase-1 RCT-258	1.210562	0.90097183	0.9102806	1.489013	0.784407	1.0076282	0.96971124	1.012419	1.0557699	0.9929546	1.2268856	1.050431	1.0234112
Argininosuccinate lyase	0.5299284	0.44042695	0.70595844	1.0781287	0.8304075	0.9399387	1.137493	1.1892755	1.1367239	0.7498071	1.5283361	1.3397689	0.83890545
Phase-1 RCT-180	0.90055627	0.73105145	0.7757768	0.9281404	0.85233965	0.8751745	1.032284	1.0432384	1.1505985	1.098757	0.86478134	0.87718814	0.8022883
Mitochondrial protein-1	2.064454	2.0300626	1.5686344	0.88557065	1.2932029	0.91248471	0.91248471	0.7348091	0.8604271	0.7723585	1.278543	1.3562822	1.1528331
Ornithine decarboxylase	2.259693	2.0640047	1.1628684	0.85070674	0.85070674	1.30574	0.7855509	1.130574	0.8002153	0.7018437	1.2908862	1.246349	1.0590022
Thymosin beta-10	0.75439636	0.6806314	0.9194007	1.018379	0.8641261	0.83884485	1.40737	1.0870395	1.0025921	1.0346295	1.192718	1.4170622	0.8680201
Phase-1 RCT-72	1.5621533	2.053513	1.3572544	2.13724	1.013525	0.959264	1.1484046	1.087422	0.98568765	0.99197376	0.9819115	1.0522423	0.8345928
Phase-1 RCT-109	0.7780974	1.071818	0.9086197	0.99957	0.8401248	1.0878533	1.33208	1.0618586	1.1018163	1.1838129	1.2741887	1.2171144	0.8770886
Phase-1 RCT-78	0.70309895	0.7451371	0.7739084	0.81685156	0.9664384	0.8133659	0.89341066	0.9322291	0.8785524	0.949761	0.8213284	0.8577418	1.1458866
Vacuole membrane protein 1	0.28598607	0.25159853	0.54867695	0.8680634	1.0241232	1.1485076	0.860831	0.79900337	1.0316613	0.7374774	0.88671996	0.9852183	0.7089183

Table 29

Phase-1 RCT-158	1.2036846	0.95292284	1.2005649	1.1991078	1.1301591	1.0475358	0.8329452	1.0081115	0.9338067	0.9817731	1.0285397	0.9214473	1.082089
Phase-1 RCT-113	0.9136374	0.75235295	0.97783263	1.1131421	0.8903801	1.1139574	0.79008004	0.9985393	0.9366418	0.979641	1.0362271	0.9023994	1.043171
Endogenous retroviral sequence, 5' and 3'	0.9762037	1.1741261	1.2893927	0.78555816	0.47601545	0.6148666	0.8245942	0.97984624	0.796095	1.135726	0.6442027	0.7599394	1.2964071
LTR													
Beta-actin	1.3941528	1.422387	1.2098732	0.6916952	0.5581552	0.70680806	0.5631421	0.70857626	0.6296839	0.8900166	0.88881935	1.0581350	0.83807524
Phase-1 RCT-65	1.160448	1.1476923	0.92043635	1.1737394	1.1283009	0.9905585	0.97634474	1.0579706	0.8367471	1.0149153	1.1776758	0.9765218	
MHC class I antigen RT1.A1(0) alpha-chain	0.90419998	1.8034426	1.2207135	0.8753545	0.76073077	0.8536866	1.3086851	1.427251	1.2229589	1.1622297	1.4189853	1.6081971	1.1092766
Bax (alpha)	1.9108559	1.9662987	1.897394	1.1718135	0.8674365	0.826158	1.4588511	1.137699	1.1782024	1.0228235	2.087134	2.4598	1.0816919
Carbonic dehydratase	1.188137	1.1852311	1.012857	1.4083107	1.2149515	0.9839226	1.9604774	1.1263167	1.0582131	1.285745	1.3611407	1.4276092	0.8945502
Beta-actin, sequence 2	0.7632345	0.59745926	0.816336	0.9152606	1.1573838	1.087626	0.8925662	0.9517408	1.0218064	0.8503513	0.81765246	0.8245312	0.9010813
Interleukin-10	1.1597526	1.8086737	1.3844327	1.2453	1.1204749	1.014022	1.0672139	0.9932983	0.9693864	1.0353397	0.97081244	1.0817134	1.0516808
Phase-1 RCT-191	0.71092785	0.731363	1.0072421	0.87791884	0.6989713	0.7371354	0.8291999	0.88783535	1.0472698	1.0467805	0.9038601	1.0679215	1.0490595
Phase-1 RCT-111	0.6477057	0.7666989	0.7422201	0.8459523	0.74063398	0.85815203	0.8213806	1.155115	0.99011834	1.1853961	1.014855	1.0770562	
Apoptosis-regulating basic protein	0.4264487	0.489633	0.5669516	0.804061	0.5786701	0.76778734	1.4713881	1.1584975	1.2138932	1.0809549	1.2422269	1.1234995	0.8680654
Glutathione peroxidase	1.1768624	1.2542163	1.0785545	1.0845912	0.8149809	0.89257026	0.9188713	0.95626044	0.97698456	0.842665	0.8362818	0.8082204	1.0025098
Phase-1 RCT-239	1.2887721	1.2938287	1.2459445	1.0510511	0.899118	0.8713805	0.9387615	0.96703905	1.0352607	1.0721896	1.1303973	1.2929962	0.9647229
Tryptophan hydroxylase	1.0723176	1.0336851	1.3157595	0.99719185	1.0253259	1.0055375	1.0384059	0.90919125	0.82692915	0.8976108	1.0948322	1.047127	1.241641
Sulfotransferase K2	1.1282729	1.06804	0.94470775	0.7875611	1.1282961	0.81672356	1.3253172	1.2474449	1.3762738	1.4815598	1.2458747	1.3593439	1.0847669
Calgranulin B9	0.9702691	0.7997505	1.0934878	1.0746821	1.407896	1.0248716	1.048335	1.1027435	1.0915777	1.174788	1.3253852	1.1781644	1.0450245
Phase-1 RCT-123	1.1866676	1	0.934878	0.9366396	0.8727893	0.98073053	1.0845102	1.020423	1.178307	1.1194938	1.1363891	1.1408633	1.0282939
Phase-1 RCT-58	0.71783694	0.7106548	0.8427555	1.1570355	1.0328603	1.0033718	1.020423	1.1281035	1.0277059	1.0294518	1.0408634	1.1068139	0.9922711
Aquaporin-3 (AQP3)	1.1520977	0.95811427	1.1007599	1.1570355	1.0328603	1.0033718	1.020423	1.1281035	1.0277059	1.0294518	1.0408634	1.1068139	0.9922711
Stearyl-CoA desaturase, liver	0.27539902	0.36332082	0.18900591	0.26035724	0.060831975	0.0647125	0.8718598	0.9201332	3.1352446	3.4811265	0.68189948	0.788544	0.92818785
Phase-1 RCT-64	1.0454888	1.167795	1.0965525	0.75803167	0.58996448	0.86853504	1.5298807	1.0737313	1.031491	1.1343285	1.1185667	1.08092	1.1178
(1) Gene expression data for 24 hour													
timepoint are presented as mean ratio of													
treatment/control for all 24 hour predictive													
genes (Table 5).													
(2) Compound and dose abbreviations as in													
Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for													
compound-dose group at 72 h: yes=ncr,													
necrosis observed; yes=both, necrosis with													
inflammation observed; no, no histopathology													
observed													
(5) Predictive gene (as in Table 5 and as													
included in Table 26)													

Table 29

Table 28. Expression Data for 24 Hour Timepoint (1)																	
Compound-Dose (2)	Animal Number (3)	Liver Toxicity Inflammation Classification (4)	Gene Name (5)	QUIN 25	QUIN 25	QUIN 100	QUIN 100	QUIN 100	QUIN 100	QUIN 100	QUIN 100	QUIN 100	QUIN 100	QUIN 100	QUIN 100	QUIN 100	QUIN 100
				no	no	no	no	no	no	no	no	no	no	no	no	no	no
				2545	2546	2554	2555	2556	1724	1725	1726	1728	1734	1735	1738	1444	1445
				no	no	no	no	no	no	no	no	no	no	no	no	no	no
				0.7852165	0.8106767	0.8106767	0.8106767	0.8106767	0.8106767	0.8106767	0.8106767	0.8106767	0.8106767	0.8106767	0.8106767	0.8106767	0.8106767
				1.007056	1.1272136	0.90308124	0.9460633	0.8486363	0.82471323	0.9357027	0.9747712	1.1053953	1.3470589	1.5108925	1.285482	1.1163969	1.1396797
				1.0285738	1.2553918	1.0116673	0.96457124	1.1345664	1.0408842	0.8937345	0.8833988	0.8833988	0.8833988	0.8833988	0.8833988	0.8833988	0.8833988
				1.1465976	0.884071	1.764361	1.0111942	1.340157	1.1784665	1.1333748	1.0941253	1.1567545	1.1567545	1.1567545	1.1567545	1.1567545	1.1567545
				0.9819195	1.0922945	1.0220205	1.1857228	1.1820443	0.9737341	1.0831762	1.0303703	1.0303703	1.0303703	1.0303703	1.0303703	1.0303703	1.0303703
				0.95078284	0.85320225	1.0361364	1.0484562	1.1070929	1.2999144	1.1759103	1.200188	0.9943965	0.9943965	0.9943965	0.9943965	0.9943965	0.9943965
				0.9497713	1.1477582	1.0697666	1.318445	1.169884	1.0795952	1.0715894	1.060058	1.060058	1.060058	1.060058	1.060058	1.060058	1.060058
				1.0457318	1.0008882	0.9472553	0.97579706	1.0530064	1.0709745	1.0714896	1.0913901	0.832296	0.7382211	1.1566118	1.0936779	1.0143928	1.0143928
				1.0382701	0.93619347	0.827469	0.7728044	0.9003536	0.6772659	0.7837154	1.0014448	0.9622904	0.8538687	0.7687454	0.8223189	1.2447197	1.001782
				1.0010295	1.1399251	0.94337515	1.0324174	1.0350437	1.1877748	0.9275853	1.0014448	0.9622904	0.8538687	0.7687454	0.8223189	1.2447197	1.001782
				0.99852274	0.9561655	1.0879874	1.0528708	0.9240845	0.9589806	0.8027186	0.9622904	0.8538687	0.7687454	0.8223189	1.2447197	1.001782	1.001782
				0.91687566	0.8184088	0.8661381	0.87021613	0.8876032	1.3071083	0.8701815	0.9885895	0.7885787	0.8050738	0.9109667	1.292508	0.81764595	0.81764595
				0.8635628	1.163394	1.1097558	1.1808503	1.2387107	1.2728457	1.0217474	0.8441146	1.0224635	0.9517219	0.8353824	1.0452118	1.1314781	1.1314781
				1.025783	1.029203	1.0442375	1.0665947	1.0623115	1.0528457	1.0620231	0.8441146	1.0224635	0.9517219	0.8353824	1.0452118	1.1314781	1.1314781
				0.81681087	0.63377894	0.9006176	0.8253368	0.8274127	1.0942768	0.871698	0.8328341	1.4295888	1.7882714	1.3600658	0.7471703	1.1161205	1.1161205
				0.7794683	0.8134911	2.1187859	1.8516805	2.0657101	2.1138368	1.8832006	1.4831718	1.4545248	1.6191068	1.8452559	0.6352288	0.2840304	0.2840304
				0.89737835	1.0599244	1.0178111	1.140054	1.014877	1.1889232	1.01556	1.0227423	0.3354489	0.81423437	0.89321774	1.0209101	0.9537049	0.9537049
				0.9028577	0.97590445	0.9261078	0.8934555	1.0298821	1.057005	1.0854647	1.0028653	0.9760705	0.8981045	1.0763005	1.0045861	0.8367623	0.8367623
				1.0353199	0.8881396	0.92063195	0.77063453	0.93697447	0.71795076	0.8025844	0.8595554	0.9659329	0.91408724	1.1160309	0.7140316	0.7695865	0.7695865
				0.9560975	0.8897503	0.95055336	0.9788421	0.8900015	1.3663744	1.081175	1.0586938	0.8879182	1.004018	0.9553637	1.0673664	0.9238984	0.9238984
				0.9441845	0.970784	0.9928735	0.98532425	0.98532425	0.7655504	0.7658768	0.84378655	0.6517982	1.0580842	1.0336802	1.0336802	1.0336802	1.0336802
				0.8693781	0.85775006	0.9208508	0.85475594	0.8843328	0.7491214	0.8032374	0.84122056	0.7798118	0.88165875	0.896274	0.9446241	0.8546468	0.8546468
				1.0538012	1.0487858	0.923312	0.94089654	1.0509906	0.91480625	0.9384402	0.8648331	1.1290588	0.8611859	0.8593413	0.8480488	0.8186084	0.8186084
				0.9369	0.94239444	0.92309976	0.8428718	0.674416	1.0917627	0.93958026	0.8970835	0.9060369	0.853421	0.85951716	1.1335108	0.82151717	0.82151717
				1.0884262	1.1371402	0.984688	0.8374087	0.85385596	1.7463535	1.3286186	1.2225031	0.81884539	1.0685537	1.2854868	1.2670076	1.2200742	1.2200742
				1.054027	1.0700167	0.9051501	0.77893627	0.8053328	0.77359533	0.84228485	1.0588192	1.2711844	0.96210897	1.3174045	0.8363413	1.0238319	1.0238319
				1.0584423	1.2076844	1.0603994	1.1651174	1.1458587	1.4880248	1.0389606	1.1371324	0.8752941	0.90995164	0.97279584	1.2104751	1.2073487	1.2073487
				0.90608	1.0432537	1.0602516	1.0441173	1.1225145	1.5043013	1.4367528	1.6883137	1.8621722	1.7605938	1.4685287	1.3035671	1.6091503	1.6091503
				0.9043617	0.8808865	1.0244761	1.1389219	0.9925855	0.84240746	0.914158	0.8880744	0.8055564	0.7609166	0.9041011	0.9972598	1.3272514	1.3272514
				0.8268018	0.83000106	0.9185853	0.9844881	0.89179313	1.3072369	0.9227959	0.97180337	0.8844332	0.8850756	0.9116087	1.0180278	0.9934895	0.9934895
				1.350863	0.8471483	1.1876663	1.335812	1.2088901	1.6945018	1.471745	1.5921463	1.3438764	1.6294597	1.4887782	0.8344542	1.1717074	1.1717074
				1.0298623	1.169484	1.082832	1.3388186	1.793804	1.384108	1.4512165	1.4683061	1.3727638	1.332182	1.6772127	1.212887	1.580874	1.580874
				1.0273162	1.1494462	0.8676535	0.95478045	0.9944661	1.0307128	1.2003794	1.2537949	0.95630676	1.0561641	0.88032867	0.91516435	0.940177	0.940177
				0.8673294	0.784615	1.0254552	0.8096444	0.94435453	0.9174719	1.0937097	0.94901174	1.1682907	1.1774765	1.0589889	0.791445	0.9045323	0.9045323
				1.0204478	0.88539404	0.7354151	0.6239225	0.8898928	0.92678954	1.2334241	1.0544437	1.0589004	1.2483023	0.9609068	0.622203	0.3910589	0.3910589
				0.9758685	1.1428284	1.1060886	0.9611391	0.9256937	0.81798464	1.3986614	0.928318	1.451622	1.0576588	0.7382183	1.0577747	1.1971983	1.1971983
				1.0756088	1.225046	1.1570524	1.4257243	1.2189103	1.9942085	1.5381661	1.8345221	1.6257607	2.243984	1.2570914	1.058444	1.4223488	1.4223488
				0.91551703	0.9237704	1.0206192	0.825282	0.84083444	0.7353154	0.8459181	0.8520917	1.286678	0.88525723	1.1239498	1.2168698	1.0516958	1.0516958
				0.9509437	1.1752667	1.0313971	0.94265294	0.9334667	0.85676557	1.2365443	1.0138662	0.98881486	0.9188324	0.8770679	1.0750039	1.0848112	1.0848112
				1.0514591	1.1488353	0.981539	1.0846169	1.0025971	0.89152006	0.85301036	0.89445155	0.8024417	0.8459864	0.9244523	1.38055	1.2408824	1.2408824
				0.97705066	0.9900698	0.9814629	1.0984005	1.080332	0.8454187	1.1616501	0.8551773	0.8840938	0.9432334	1.5356847	0.9786034	0.8147978	0.8147978
				1.0391177	0.781726	0.7940878	0.8651133	0.70447195	1.0009716	0.87953436	1.0210108	0.9522885	1.0280889	1.2576241	0.8873519	0.83003976	0.83003976
				0.9539171	1.0333773	0.9824383	0.7722818	0.9856448	0.87026845	0.8268033	0.9378998	0.8421235	0.7886181	1.0526882	1.1332371	1.0754018	1.0754018
				0.95300766	0.7703335	0.9966645	0.9217463	0.916834	1.0282883	1.0467517	0.8637572	1.4217272	1.1357121	1.087181	1.3144373	1.3327402	1.3327402
				1.1396552	1.1860988	1.3184081	0.86410534	0.5446528	1.5688652	1.5745558	1.3161542	1.0986937	1.480333	1.460333	1.4418269	1.0364285	1.0364285
				0.95300704	0.86215115	0.81420776	0.89200398	1.2932541	1.607489	1.607489	1.607489	1.607489	1.607489	1.607489	1.607489	1.607489	1.607489
				0.9500359	0.970106	1.0260394	1.2702632	1.1306348	1.7187987	1.79074	1.6202623	1.742921	1.6057833	1.8970199	1.3353055	1.3223321	1.3223321
				0.98189	0.98948175	0.9974374	0.9573132	0.968295	1.6385651	1.3122982	1.4545772	1.4644339	1.4955793	1.1205508	0.8736591	0.7705308	0.7705308

Table 29

Phase-1 RCT-49	1.04669348	0.97810113	0.93083832	0.92916095	0.80512226	0.87259287	0.92977214	0.76370037	0.78960075	0.75133777	1.066205	1.0583948
Calgranulin B3	0.96302556	0.9820188	1.08231384	1.0765264	0.9648402	1.1185992	1.0457737	1.023188	1.0409928	0.9916873	0.80622556	
NADP-dependent isocitrate dehydrogenase, cytosolic	1.0701575	1.0487806	1.0040035	0.984446	0.76381284	1.0555737	0.8372254	1.012501	0.9548631	0.9706026	1.0023574	0.98430236
Oxyster binding protein 1	1.0866456	0.80814147	0.97677565	1.0058391	0.9729032	1.1468955	1.0056322	1.0852407	1.0845241	1.1845058	0.9782473	0.7500978
Sodium/bile acid cotransporter	1.1184043	0.82288167	0.93713516	0.72832906	0.9814765	1.073808	0.9052311	1.0718054	1.2210947	0.8540092	0.5457214	0.5630889
Phase-1 RCT-174	0.9830028	0.76576275	0.9092801	0.9879339	0.9011574	0.94429795	0.9563345	0.69615686	1.0715381	0.83780277	1.1745621	0.9532975
Phase-1 RCT-77	0.9382042	0.70245683	0.85031444	0.84123577	0.8088483	0.8441401	1.0786273	1.0244924	1.0745954	1.07451	0.98975455	1.3854737
Inositol polyphosphate multikinase (IpMK)	0.87227046	0.9927693	1.0228362	0.917362	0.6302043	1.1182895	1.065241	1.1643256	1.8084167	1.500347	0.9992685	0.81737614
Phase-1 RCT-256	0.87698854	0.9074374	0.9002881	0.83111727	0.8830183	1.2603745	1.1243145	1.0203028	1.2191371	1.0518664	1.200487	1.1758952
Equilibrative nucleoside/nucleosine-sensitive nucleoside transporter	1.002368	0.8216926	0.96100885	0.8252681	0.96232364	1.0476381	0.83774215	1.0225239	1.3581177	1.0764068	0.867327	0.81208906
CDK102	1.0639113	1.0128525	0.9750206	0.9750879	1.0311054	1.2256654	0.8459597	1.0345005	1.1234678	0.808384	1.0598105	0.95978963
Phase-1 RCT-209	0.9637778	0.95019495	0.8955103	0.92803315	0.8485032	1.0738367	0.98016727	0.78443253	0.9122184	0.87857183	0.87242186	0.7332911
NADH-cytochrome b5 reductase	0.9833354	0.86916363	0.9272083	1.023861	0.9459874	1.2834252	1.2834252	0.9933216	0.97006228	0.69837545		
Dynamin-1 (D100)	1.0046741	1.0061039	0.9410347	0.92742604	0.83030593	0.9423155	0.9652766	0.7540751	0.8819521	0.95436	1.10437	1.1078846
Senescence marker protein-30	0.94288285	0.74287903	0.6931003	0.6638716	0.9256822	1.0774349	0.96540123	0.79748396	1.0540508	1.5200514	0.82081856	0.58500416
Phase-1 RCT-89	1.023722	0.90531534	0.8845675	0.877545	0.9362538	1.0719113	1.1987218	1.0077924	1.471751	1.3149458	1.201048	0.9079235
Cardinal perfrictin-CpA transferase	1.0660021	1.1992592	1.2698808	1.1410227	0.7476889	0.9904838	1.0118044	1.1820214	1.1827544	0.92660487	1.270202	1.3241549
Alpha-2-microglobulin	1.2020477	0.71681833	1.01051893	0.741624928	0.8537277	0.6879095	0.78940134	1.2028265	1.6780982	1.1326364	1.5004939	0.8138441
Apolipoprotein CIII	1.1204582	1.171068	1.0090351	0.74594826	0.819121	0.84524513	0.71440274	0.8821395	0.92350628	0.794842	1.0144042	0.97268318
Cathepsin L, sequence 2	0.94900775	0.79836977	0.8167811	0.98756876	0.97231895	1.1450361	0.9686725	0.9055718	1.4308892	1.1893192	0.80568186	0.5541354
Phase-1 RCT-141	1.0636032	1.0117358	1.422222	1.8374285	1.6023269	0.9831186	1.236521	0.9481752	0.8898194	1.0038116	1.1840575	1.4434526
Phase-1 RCT-289	1.025732	0.925869	0.87804555	0.8516238	0.9140013	0.72903645	0.84892874	0.97055334	0.938942	1.411842	1.3422586	0.75781333
Endothelin-1	0.9928219	1.0112195	1.1230045	1.2632865	1.1330823	0.995788	0.8691632	0.94012064	0.76880115	0.8287108	0.8552234	1.0163469
Phase-1 RCT-282	0.94806997	1.1088768	0.95240647	0.9874828	0.96943593	1.0983454	0.86979584	0.98959546	0.78607844	0.96931415	0.8928953	1.3439277
Phase-1 RCT-140	1.011238	1.044291	1.0207866	1.0753552	1.0696429	0.9898072	1.1857449	0.9605994	1.0747852	1.1505986	0.85161877	1.132413
Cyclin D1	0.7620281	0.9634252	0.7953083	0.84079397	1.1737216	1.0278108	0.8933309	0.8495976	0.7841703	0.9089425	0.9409637	1.2304059
Phase-1 RCT-287	1.1677316	0.9388616	1.0715622	1.0944834	1.007535	1.1026992	0.9584663	0.9352827	1.110395	1.043219	1.0032619	0.8631073
Phase-1 RCT-281	0.7230012	1.0012152	1.0430083	0.9384554	0.9840837	0.8407288	0.9007144	0.9353299	1.07945415	0.8844539	0.8673943	0.957208
Retinol-binding protein (RBP)	0.9378115	0.818038	0.9357709	0.8204033	0.84242617	0.8892478	0.91766316	1.0385827	1.612135	0.855467	1.0785127	0.65897366
ATP-activated glucocorticoid receptor	1.1151475	0.8172192	0.9485436	1.2045379	1.1407628	1.5375106	1.3481389	1.312052	1.821759	1.6003313	1.3418268	0.6507703
Translocation promoter (GVK)	0.91248598	0.98849994	1.0125974	1.00738	1.0436865	0.9153318	1.0211287	1.058084	1.261896	0.9691467	1.2632767	0.9938547
Phase-1 RCT-60	0.96020913	0.903871	0.848049	0.96011204	0.9609635	1.4318986	1.198251	1.239278	1.1658284	1.0312232	0.85302943	0.9954117
Pyruvate kinase, muscle	0.886677	0.8896208	0.9378233	1.0292124	0.9842618	1.0592256	1.0280865	1.0211519	0.9991555	1.1575786	1.171416	1.1117691
PAR interacting protein	1.0175697	1.0928716	1.118814	1.24398	1.2331465	1.1546963	1.1436331	1.0135412	1.2684354	1.0700526	1.1338161	1.4175729
Nucleoside diphosphate kinase beta isoform	0.96708814	1.4260406	1.088338	1.1542411	1.1382078	1.0789173	1.1409884	1.1499121	0.98865217	0.9807588	0.93849753	1.2024871
Gad153	0.8010951	1.1602	0.959853	1.2431123	1.1294914	1.1971648	1.2668328	1.4227348	1.4674399	1.3085007	1.0650221	1.4124533
Insulin-like growth factor binding protein 1	1.2330941	0.93784416	1.1203688	1.1520313	1.2075806	1.1681128	1.1455288	1.1605514	1.0758544	1.0217382	1.0594269	1.060263
c-H-ras	1.0369519	0.89925885	0.92438783	0.69424874	0.96485156	0.89473444	0.7487298	0.8607351	1.5697435	1.1276206	1.024576	0.74249804
N-hydroxy-2-acetylaminofluorene sulfoxidase (ST1C1)	0.9676572	1.2252026	1.1809768	1.2641763	0.98208295	1.1362406	1.5653754	1.2609345	1.7661054	1.59497	1.4342971	0.92924374
Phase-1 RCT-62	0.75883	0.8269723	0.8972026	0.54246193	0.677495	0.8295482	1.1217235	1.0052762	1.5909928	1.303538	1.4185504	0.6893033
Alpha 1 - inhibitor III	0.9671007	0.96914876	1.0416982	0.91446877	1.1147645	1.1142302	1	0.891759284	1.1015587	1.1846489	0.81204474	1.0380779
Slc9 carrier protein 2	0.97587598	0.9001047	0.87251204	0.64836514	0.8841333	1.2261566	1.028043	1.1766884	1.5992687	1.5729118	1.0718522	0.8815925
Ornithine transporter 3	1.0181044	0.89899125	1.1806769	0.9523084	1.0404435	0.8236471	1.0776668	1.0704232	0.9660404	0.98068875	1.1809413	0.92105454
Calgranulin B4	1.143107	0.85913014	0.8404985	0.9309737	0.8047288	1.23788	0.93657637	0.98771026	1.2275738	0.9116788	0.7836331	0.8728008
Phase-1 RCT-182	0.9168408	0.9189309	0.78801188	0.90758905	0.91018313	1.2609878	1.1887066	1.0273874	1.3433119	1.1285194	1.101225	1.1352394
Calgranulin B8	0.9630798	1.1237928	1.057381	0.9387663	0.9761251	0.7587779	1.2863971	1.1	0.8723847	1.0915754	1.3553587	0.888088
Adenylate dehydrogenase, microsomal	0.98179543	0.9459377	0.8776458	0.7291102	0.8339524	0.787941	0.9451293	0.9548848	0.8394746	0.83941278	1.048568	0.7732715
Phase-1 RCT-128	0.9046398	1.010012	0.7661107	0.65858016	0.6788662	0.6052773	0.7188402	0.69034746	1.1605284	1.048568	1.065684	0.7732715
Preproalbumin, sequence 2	0.8514194	0.8125713	0.98989894	0.5587341	0.71481633	0.8240192	0.8845276	1.0604036	1.3096893	1.0631178	1.565368	0.63664583
Apolipoprotein AII	1.004927	0.5146854	1.0450095	0.84840775	0.6100308	0.7852723	0.70509624	1.2036891	0.91004866	0.8423544	0.71802807	0.59846896
Phase-1 RCT-10	1.0266937	0.93613523	0.98271143	0.89515265	0.7816964	0.70509624	1.2036891	1.1804757	1.534973	1.4223977	0.8884239	0.7886479
Phase-1 RCT-48	1.093708	1.1354841	0.9714095	1.0817555	0.94188994	1.0141337	1.3387866	1.1029165	1.520566	1.266652	0.8194928	0.8528981
Phase-1 RCT-8	0.9616784	0.86938534	1.0286592	0.85944174	0.73894694	0.8789026	0.9780403	1.0549271	1.3103789	1.038931	1.4316384	0.69207066

Phase-1 RCT-168	0.9626336	1.0653285	1.126018	1.0654902	0.945425	0.8252074	1.0285192	1.1433203	1.1433146	1.0375334	1.1587108	0.9747601	1.67A7091
Phase-1 RCT-98	1.0301274	1.017978	0.9779307	1.0686928	0.9859168	0.845895	1.017285	0.929357	0.7669364	0.6390317	1.0210425	0.9071384	0.75A13084
Beta-alanine synthase	1.0326267	0.6200406	1.2153294	1.368658	1.3496878	1.1536828	1.472432	0.852897	0.852897	0.852897	0.87108195	1.0712392	0.6865404
Phase-1 RCT-286	0.92174655	1.2036747	0.9747702	0.76234604	0.8411648	0.7363154	1.0108153	0.98468073	0.99413896	0.8108041	0.87167317	0.87375148	0.8323866
Carbonic anhydrase III	1.0082513	0.7632411	0.53893745	0.3010708	0.8195228	1.3401147	1.0709154	1.3698516	1.7898778	1.5241112	1.7230947	0.8151803	0.3897834
Phase-1 RCT-281	1.0366925	1.111158	0.9588124	0.98981533	0.82581695	1.1226673	0.87108208	0.867348	0.83357924	0.8798052	0.9685076	0.9685076	
Carbonic anhydrase III, sequence 2	1.1089842	1.1742051	0.9585006	0.82057494	0.900701	0.7826482	0.8187567	0.9544652	1.3404571	0.920154	1.6947145	0.743914	0.6513489
Phase-1 RCT-271	0.9738002	0.8515388	0.8913117	0.596612	0.77158492	0.8445312	0.9608769	1.006459	1.044526	0.967592	1.3313934	0.8872805	0.8355868
HMG-CoA synthase, mitochondrial	0.917643	1.16241	1.1243532	0.84306204	1.0221483	1.8463323	1.1919241	1.7936249	1.773739	1.0374864	1.1281162	0.75208116	0.8270583
Phase-1 RCT-189	1.115472	1.121845	1.046864	1.1420656	1.0894144	0.7895331	0.80146255	1.0479507	1.0374864	1.1281162	0.75208116	0.8270583	
Phase-1 RCT-40	1.0282321	0.9393413	0.8333686	0.87108208	0.9544652	1.3404571	0.920154	1.6947145	0.743914	0.6513489	0.8355868	0.8270583	
Urinary protein 2 precursor	0.8408187	0.783512	0.743301	0.80252594	0.984687	0.783512	0.743301	0.80252594	0.984687	0.783512	0.743301	0.80252594	0.984687
Paraoxonase 1	0.8998895	0.7902314	0.8413775	0.62284064	0.77330923	0.78690186	0.78690186	0.78690186	0.78690186	0.78690186	0.78690186	0.78690186	0.78690186
Liver fatty acid binding protein	0.8121716	1.03972	0.9640737	0.8452461	0.8717384	0.8348455	0.74001676	0.6184926	0.47452337	0.8690769	0.57687825	0.6871387	
Presenilin-1	0.79292184	0.63820785	0.91486504	0.59897968	0.86729209	0.86729209	1.2220083	1.0550628	1.6514283	1.237871	1.72453	0.6886571	0.7081153
Phase-1 RCT-38	0.81842977	0.83365154	0.92048434	0.75060743	0.8608454	1.1576885	1.0045994	1.0368715	1.1769852	1.2169852	1.0374864	1.1281162	0.8270583
Phase-1 RCT-270	0.87226747	0.8671803	0.9313459	0.7765517	0.7747057	1.1562512	1.4483598	0.97343373	1.3284818	1.1976316	1.1075922	1.3284818	0.8270583
Transferrin	0.75414246	0.76611517	0.88192785	0.49474502	0.6118408	0.8924186	0.84283555	0.78283507	1.2423944	1.0576386	1.0314531	0.45345435	0.41120887
Hepatic lipase	0.7863316	0.9481181	0.8246583	0.706828	0.77418335	0.55935204	0.6303763	0.83155406	0.880203	0.8423173	0.9715542	1.0205522	0.9878268
Cytochrome P450 11A1	1.1494527	0.83229357	0.90932198	0.81863105	0.7508291	1.0728095	0.83228	0.9165428	1.215808	1.161345	0.8720265	0.55332375	0.8283327
Phase-1 RCT-175	0.91651344	0.9033226	0.8217822	0.79281354	0.8372471	1.0728095	0.83228	0.9165428	1.215808	1.161345	0.8720265	0.55332375	0.8283327
Phase-1 RCT-117	1.0282917	0.95180314	1.2028939	1.4547287	1.2878188	1.077324	1.385984	0.9908028	0.784007	0.7163424	0.8907313	1.0940378	0.85283524
Phase-1 RCT-137	0.85798925	0.81903307	0.80783385	0.7396754	0.8520518	0.88838366	0.7043813	0.9303276	1.0699026	0.832495	0.811453	0.9690505	0.8892839
Melanin-associated antigen ME401	0.9245447	1.0246388	0.9541271	1.001422	1.1038555	0.8129706	1.0855994	0.9303276	1.0699026	0.832495	0.811453	0.9690505	0.8892839
Phase-1 RCT-12	1.0124675	1.0252539	1.055843	1.1710409	1.1247035	1.5924273	1.8147745	1.6903733	1.4308733	1.381384	1.6210546	1.2305056	1.2250284
Phase-1 RCT-152	0.89071417	0.95065347	0.827247	0.9374058	0.8661281	0.9665308	0.9927398	0.95144794	1.1782383	1.0075393	0.81166875	1.0241168	1.1132532
14-3-3 zeta	1.0721686	1.2248434	1.0150906	0.9746067	1.0861968	1.2149022	1.2562029	1.3281392	1.2118232	1.3410649	1.4342045	1.26242	0.9885881
Cytochrome P450 2C23	0.9113554	1.1258973	0.74722356	0.78937995	0.860871	0.76545853	0.8003362	0.8003362	0.8003362	0.8003362	0.8003362	0.8003362	0.8003362
Voltage-dependent anion channel 2 (Vdac2)	0.96772325	0.9878281	1.0370538	1.0110915	1.0163696	1.4791473	1.2455173	1.2403063	1.4447078	1.2571138	1.0267005	0.6547896	0.72450085
Phase-1 RCT-154	1.0577317	1.0480802	0.8881344	0.95676160	0.88104477	0.82648447	0.82648447	0.82648447	0.82648447	0.82648447	0.82648447	0.82648447	0.82648447
Superoxide dismutase Mn	1.2121351	1.1491633	1.2256105	1.2292718	1.1217158	1.5086556	1.2944945	1.2167249	1.2846608	1.2880502	1.1302496	1.2395401	
c-myc	0.9559428	1.39997	0.96407396	1.0761676	1.0153041	0.9895844	1.0307853	1.1125144	1.0040484	0.90788543	0.737479	1.214463	1.1781544
Phase-1 RCT-186	1.1654598	0.9112936	0.88707233	0.9413985	0.9869386	1.163898	0.96707354	0.93932694	1.0775817	0.8467623	0.90727819	0.8534543	0.8656597
Cydn G	0.95917356	1.1060354	1.0818172	1.2356483	1.124838	1.0739167	1.0439327	1.0286666	1.024409	0.8748565	1.0286954	1.261098	1.028612
Calgranulin B5	1.0286484	1.167374	1.0079798	1.0723866	1.0189053	0.9943952	1.0282724	1.0632313	0.8695779	0.8625328	1.0598953	1.031778	1.1802286
Phase-1 RCT-205	1.0084511	1.0834016	0.99630743	0.93898235	0.87028714	0.80462956	0.82594377	0.84280684	0.749112	0.8414868	1.0803164	1.0822004	1.0618148
Phase-1 RCT-68	1.0224509	1.0291259	0.9850021	0.975351	0.99810555	0.81603937	0.976715	1.0291564	0.9717854	0.94104564	1.0489849	1.0237417	
Caspase 3	1.068446	1.160955	1.0912114	1.0918872	1.1003314	1.2863946	1.2135209	1.1382263	1.0011362	1.011728	0.9167155	0.9658036	0.908466
Alpha-tubulin	0.912883	1.0762859	0.955569	0.87188445	1.0251124	1.6522763	0.8432427	1.398284	0.8342526	0.8217476	0.9178803	0.97616273	1.104266
Ribosomal protein L19a	0.8759767	0.9851332	1.0599107	1.2716002	1.247416	0.9346344	0.7208955	1.093667	0.76501805	1.14213	1.0583581	0.9328755	1.3576531
IgE binding protein	1.0184661	1.0735252	1.1131284	1.1947376	1.1418557	1.1540726	1.1774577	1.100299	0.8147422	0.9426771	1.0894018	1.0544791	1.075287
Phase-1 RCT-39	1.0171276	0.94852364	0.95128024	0.9884548	1.0912433	0.9948466	1.0022893	0.9389134	0.83943444	0.8658152	0.8705272	0.88136805	1.137184
Cofilin	0.96462244	0.94752676	1.0064694	1.0041528	1.0701339	1.216671	0.84552916	1.0215228	0.80562426	0.95498786	0.9286254	1.1317202	0.97557044
Heme oxygenase	1.0633428	1.0094491	1.0079721	0.8864707	0.95491165	0.890248	1.1728666	1.0572165	1.1250281	1.0262122	1.3418705	0.6973916	0.85122484
Phase-1 RCT-241	1.0019865	0.9881182	0.98663825	0.92352235	0.87704355	1.2003838	1.0491647	0.988744	1.2814184	1.0916878	0.84113505	0.865741	0.7565285
Ribosomal protein S9	0.9434375	1.0069831	0.78742987	1.0072409	1.016663	0.7851292	0.75079256	0.8315102	0.7200231	0.9332525	0.95334464	0.93480408	1.027139
Phase-1 RCT-258	1.0386927	0.8617155	0.964348	0.8884153	0.9675319	0.8763584	1.0726936	0.890467	0.8304324	0.9378235	1.1221821	0.8851441	1.0022857
Argininosuccinate lyase	0.99188185	1.0279321	1.0297331	1.0518974	1.0807569	1.7744771	1.744718	1.77208	1.17208	1.5138764	1.3133042	0.6592666	0.83425707
Phase-1 RCT-160	0.9602228	1.1055995	0.8750552	1.240223	1.084052	1.2287831	1.2865108	1.052949	0.9815897	1.0810274	1.1543063	0.90304254	1.0307662
Multidrug resistant protein-1	1.0068806	1.0287322	1.0514954	1.0451125	1.0121155	1.4582979	1.5504433	1.657082	1.4980858	1.4944847	1.158337	1.0748623	1.0417026
Omitline decarboxylase	0.85112405	1.0368936	1.097515	1.0889164	1.1012329	1.2817274	1.2817274	1.0679845	1.0621027	1.4438003	1.2171278	1.0798974	0.7998974
Thymosin beta-10	1.091519	1.1353533	0.9748127	1.0806087	1.0875269	0.91042185	0.92111206	0.9949377	1.0273925	0.772508	0.86284366	0.9976721	0.9848965
Phase-1 RCT-72	0.9248243	1.1363872	0.88524103	0.95180275	0.8610436	1.1842812	0.8940371	0.8742941	0.7452941	0.7772508	0.86284366	0.9976721	0.9848965
Phase-1 RCT-169	0.8848362	1.0069789	1.0628793	1.1692456	1.0972037	0.9470659	1.0204607	1.0680451	1.0024981	0.7772508	0.86284366	0.9976721	0.9848965
Phase-1 RCT-70	1.0451913	1.125259	1.0650586	0.939274	1.0518935	0.8917801	0.83458784	0.9385833	1.003346	0.9634235	1.115407	0.92886545	0.8697575
Vacuole membrane protein 1	0.9724012	0.72208176	0.7424507	0.787682	0.7628306	0.855981	0.9807259	0.9807259	0.9807259	0.9807259	0.9807259	0.9807259	0.9807259

Table 28

Phase-1 RCT-158	1.0148227	1.1017035	0.9560567	1.0565519	0.8269326	0.9294894	0.9530334	0.8625688	0.7610742	0.9258605	1.101884	0.8018351
Phase-1 RCT-113	1.096048	1.0668063	0.9750057	1.0008208	1.1416544	0.83089485	1.1705588	1.0976993	1.0159326	1.264076	1.1406335	1.0075768
Endogenous retroviral sequence, 5' and 3'	1.1640471	1.1201609	1.1097418	0.9736523	1.0721242	0.8431126	1.1513983	1.2980335	1.1588854	0.97081283	1.1878552	0.9263333
LTR												
Beta-actin	0.9972961	1.0493242	0.9683616	1.1216848	0.9036032	1.4153093	1.4022264	1.7297508	1.8880906	2.549134	0.83648014	0.80573978
Phase-1 RCT-65	0.9494342	0.94576836	0.98488736	1.0945808	1.0576874	2.2428832	1.6070827	1.784816	1.6407164	1.671033	1.1258929	1.1501768
MHC class II antigen RT1.A1(f) alpha chain	1.038332	1.0886954	1.2294574	1.3138031	1.3111023	3.1077993	2.389128	2.8621804	1.7928787	1.7893361	2.3595812	1.05002
Bax (alpha)	0.9440556	1.2334515	1.1071482	1.2510041	1.1127865	1.4875487	1.5156564	1.5562704	1.2511872	1.2055025	1.0271883	1.0757004
Carboxyl reductase	1.0187141	0.9993186	1.0549412	1.1398708	1.0944912	0.8984652	0.9817406	1.104053	0.80368594	0.8692885	0.98023885	1.0604358
Beta-actin, sequence 2	1.0589271	0.9653406	0.98712844	1.0218853	0.9095838	0.98881605	1.2081767	1.4545853	1.0725745	1.1902238	1.8585577	0.8537802
Interleukin-10	1.008957	1.412209	1.1458768	1.1564538	1.1939554	1.3599602	1.1935737	1.3302443	1.1726573	1.1031252	1.2104101	1.3249478
Phase-1 RCT-191	1.0046977	1.0637682	1.0658076	1.2278448	1.1384936	1.3972139	1.4883541	1.5967498	1.7349277	1.468192	1.6392224	1.2335364
Phase-1 RCT-111	1.104604	1.1510418	1.0445553	1.044127	0.88934543	1.7371734	1.2148687	0.91304314	0.9114432	0.8494413	0.88818288	0.8841388
Apoptosis-regulating basic protein	1.0422335	0.7650989	0.9277252	0.7418714	0.8294888	0.7627688	0.7184356	0.89231138	0.84944	0.9973477	0.7396288	0.69505164
Glutathione peroxidase	0.89220715	0.9961495	0.9239338	0.739487	0.7011335	0.87498546	0.9864595	0.99231138	0.81231797	0.8392754	0.8632534	1.0722773
Phase-1 RCT-239	0.88775057	1.1310729	0.89562657	0.8545893	1	1.5003666	1.5613377	0.9638871	0.73397254	0.81689175	0.9632534	1.0722773
Phase-1 RCT-67	1.0162283	1.0597017	0.90366764	1.0682561	0.9682561	0.82843	0.92521626	0.9638871	0.73397254	0.81689175	0.9632534	1.0722773
Tryptophan hydroxylase	0.9912008	0.9446228	1.0285365	1.0066165	1.268107	1.2218016	1.00305	1.0253415	1.0500269	1.1031252	0.82768455	0.9799706
Sulfotransferase K2	1.2202895	1.4116209	1.017352	1.0524894	1.0992602	1.2115085	1.1928862	1.6747054	1.3912495	1.11804	0.8514434	0.63924688
Calgranulin B9	0.97826524	0.99737465	0.80088285	0.941839	0.92991155	0.9477875	1.1068775	0.96327814	0.8944177	0.8982853	1.38858	1.0642334
Phase-1 RCT-123	1.0025271	0.7849307	0.95635404	1.068137	1.1618915	1.0688241	1.1263138	1.0389081	0.74577736	0.85181147	0.8713485	1.038029
Phase-1 RCT-48	1.088531	0.94877964	1.0214226	1.0007124	0.97912804	1.1254911	1.1263138	1.0389081	0.74577736	0.85181147	0.8713485	1.038029
Aquaporin-3 (AQP3)	1.0199194	1.0360376	0.85912268	0.8851961	0.8778556	0.9964916	0.9566368	0.66902704	0.8788557	0.90781968	0.88836455	0.9508794
Succinyl-CoA desaturase, liver	0.41482265	0.45271632	0.7603276	0.27689167	0.2332206	0.32892884	0.34878445	0.7373154	1.0890737	0.5941868	0.84396516	4.4283376
Phase-1 RCT-84	1.0495886	1.1683632	1.2218469	1.2599894	1.1078914	1.2762226	1.3449407	1.552117	1.1918003	1.1007786	1.1950738	1.4807433
(1) Gene expression data for 24 hour												
timepoint are presented as mean ratio of												
treatment/control for all 24 hour predictive												
genes (Table 5).												
(2) Compound and dose abbreviations as in												
Table 1.												
(3) Individual animal number												
(4) Liver inflammation classification for												
compound-dose group at 72 h: yes-neo-												
necrosis observed; yes-both, necrosis with												
inflammation observed; no, no histopathology												
observed												
(5) Predictive gene (as in Table 6 and as												
included in Table 26)												

Table 29

Table 29. Expression Data for 24 Hour Timepoint (1)													
Compound-Dose (2)	TAM 50	TAM 200	TAM 200	TAM 200	TAM 200	TAM 200	TAM 200	TAM 200	TAM 200	TAM 200	TAM 200	TAM 200	TAM 200
Animal Number (3)	1448	1454	1455	1456	1457	1458	1459	1460	1461	1462	1463	1464	1465
Liver Toxicity Inflammation Classification (4)													
Gene Name (5)													
Gamma-actin, cytoplasmic		0.99201164	1.7031103	1.2575493	1.0774838	1.1315989	1.053748	1.0662037	2.0713888	1.8659448	2.314688	0.8571483	0.9435105
Phase-1 RCT-145		0.93507063	1.0473587	1.0428458	1.2281488	0.89809763	0.9203833	0.94833	1.9883407	2.7969778	1.557653	0.89913857	0.9074849
Gadd45		1.4569562	1.3178833	1.3832433	1.1680902	1.168446	1.2071856	1.2554554	2.4440973	2.4440973	1.897707	1.8428922	1.3503004
Phase-1 RCT-78		1.0250294	0.8199514	0.8128773	0.72549325	0.83954036	0.9720206	0.95642394	0.69652786	0.70472795	0.69243884	1.118132	1.268272
Fas antigen		1.0973803	1.174203	1.078435	0.8529435	1.0978316	1.0605206	1.1684768	1.9717069	1.2646663	1.5546667	1.120882	0.861632
Macrophage inflammatory protein-2 alpha		1.1070485	1.178977	1.098453	1.8661312	1.783762	1.1077511	1.1559807	2.1031275	1.884826	1.3847436	0.7262856	0.768088
Interferon beta 1		1.3333787	1.5783515	1.2128258	1.3669188	0.88022966	0.8904718	1.1376752	3.420328	1.822519	0.720092	0.622519	0.8697086
Phase-1 RCT-207		0.67633957	0.84700304	1.0251136	0.98116545	0.9303474	0.9151595	0.7950744	1.4611253	1.3495806	1.3248067	0.6940133	0.711282
Aspartate aminotransferase, mitochondrial		1.2568892	1.2247138	0.9058009	1.2191547	0.62597823	0.7205463	0.6551062	1.2174548	1.0674851	1.2904298	1.1735165	0.9928411
Caspase-1		0.9665749	0.8575304	1.0436363	1.0603255	1.2021578	1.1303147	1.0824404	0.99761397	0.8021292	0.7799087	1.2846355	0.96487834
Malic enzyme		0.7524729	0.6148094	0.95205146	1.170069	0.8672475	0.90527847	0.9187243	0.5427611	0.3821347	0.42351055	0.742114	1.0707332
Phase-1 RCT-30		1.0612104	1.3599959	1.0162674	1.3474758	1.0733263	1.0411105	1.0749074	2.2642628	1.0618539	1.1750894	0.8619058	0.8623823
Hepatocyte growth factor receptor		0.8949049	1.1268015	1.020488	0.92458797	0.9930278	1.041574	1.014422	2.2018175	1.3055642	1.3567065	1.0128512	1.2917285
MAP kinase kinase		0.92025	0.4158684	0.8677091	1.46681823	0.35973578	1.178594	0.74359573	0.93861506	0.18641631	0.5094239	0.68534078	1.8879105
Sodium/glucose cotransporter 1		0.9577782	0.8363542	0.9581818	0.9061382	1.0871721	0.98037803	1.1532407	1.1913787	1.1956064	1.207388	0.1085913	0.89105433
Phase-1 RCT-60		1.1551164	2.2982483	0.92274636	1.241424	0.89031027	1.1052252	1.0896951	2.243888	0.78279757	3.252228	1.1050518	0.9682798
Phase-1 RCT-288		0.8446845	0.77348465	0.8588396	0.6801653	0.81535685	0.8493387	1.0087418	0.78279757	2.8135083	2.120729	0.9312688	0.74104168
Phase-1 RCT-37		1.031145	1.0543014	1.124242	1.0788693	1.1564903	1.1590062	1.1071378	2.0552845	1.607621	3.252228	1.1050518	0.9682798
Organic cation transporter 3		1.1148312	1.3936602	0.87230035	1.4274712	0.99020106	1.1296357	0.9844189	3.607207	2.8135083	3.0682132	1.1050518	0.9682798
60S ribosomal protein L6		1.0307005	1.2634026	0.8404013	1.3567817	1.8240581	1.1452229	0.9096289	3.6433098	2.9608984	3.0682132	1.1050518	0.9682798
Zinc finger protein		0.7149463	0.85834595	0.9047018	0.7628835	1.6210169	0.8404312	0.9309457	1.0913143	1.8628806	1.0697465	0.9977491	0.8035369
Calgranulin B2		0.93627477	1.1230171	0.977352	1.126831	0.8873859	0.8775555	0.9187243	0.98096895	1.0871216	1.0573038	1.0238497	1.0365173
ID-1		1.0457174	1.2613565	1.178812	1.383273	1.1593478	1.1525378	1.183348	1.195102	1.195102	1.224189	1.010936	0.7902851
Phase-1 RCT-42		0.8701373	0.7643873	0.938778	0.70466016	0.87622535	1.2105178	1.0251029	0.2600558	0.43972868	0.47348	1.222956	1.1729012
Phase-1 RCT-115		2.165461	1.3439259	0.7348602	0.81931555	0.79748136	0.9038278	0.733999	0.9625129	0.9578757	1.1543208	0.8576558	0.97727414
Mdr1b		1.1005886	1.2127765	1.09125	1.3310517	1.0427084	0.84578284	1.1348947	1.7304876	1.4702328	1.494187	0.8084434	1.096801
Phase-1 RCT-79		0.9587778	1.0320392	1.1959134	0.93054116	0.8298224	0.4922733	0.6502254	1.9484965	1.0531172	2.3078933	0.83635265	1.0243928
Sorbitol dehydrogenase		1.176845	1.19349	0.5029281	0.92163384	1.182053	1.182053	1.182053	1.182053	1.182053	1.182053	1.182053	1.182053
Phase-1 RCT-24		1.1684841	1.6184051	1.0349053	1.182053	1.182053	1.182053	1.182053	1.182053	1.182053	1.182053	1.182053	1.182053
Calgranulin B1		1.321648	1.2381665	1.0378078	1.1051328	0.8694637	0.6292295	0.6913829	1.8608724	0.7398127	1.489974	1.0716882	0.8525708
Elongation factor-1 alpha		0.9612051	1.0820181	0.7111693	0.8008331	0.5886128	0.90811947	0.7721649	3.0029864	2.1054409	3.040404	1.2716882	0.8525708
L-glutono-gamma-lactone oxidase		0.8455209	0.4604825	0.41998152	0.46915105	0.5339328	0.7025735	0.8285369	0.3512681	0.32115035	0.49372524	1.0538359	1.2701422
Phase-1 RCT-33		1.2020285	0.94409466	0.9733916	0.8884465	0.8846858	0.7611661	0.98826145	0.5256491	0.36780813	0.692952	1.0683302	1.4344726
C-Jun		1.0695564	1.063707	1.1387674	1.0383014	0.93483925	0.8071801	0.93102336	1.1737627	0.6586048	0.858998	1.2322105	0.85829403
Phase-1 RCT-233		1.1752605	0.7496872	0.9724723	0.79583706	1.188837	1.0213228	1.0845454	0.44495946	0.66784686	0.8887871	0.7341829	1.1042011
Phase-1 RCT-36		1.0831124	0.95535784	1.0121739	0.8265188	1.1027038	0.9612393	1.0810331	0.6284950	0.6062564	0.7238615	0.8556724	1.0081804
Phase-1 RCT-181		0.93828326	1.0475906	1.0915982	1.2243562	1.182073	0.7074609	1.010331	1.0450518	1.8127679	1.0365269	0.83519995	0.8527405
Phase-1 RCT-185		0.93312838	0.9276677	0.97054533	0.74742454	0.5941119	0.8436048	0.5805812	0.3668154	0.473467256	0.7856751	0.9588828	1.0731744
Phase-1 RCT-179		0.9123146	1.0221181	0.82862914	1.1227076	0.70287997	0.866624	1.073728	3.515933	0.3864953	2.8372438	0.7848471	0.9466872
Phase-1 RCT-144		0.8684932	0.99351408	1.0238138	1.1833059	1.1989006	0.9762239	1.117388	2.2818922	2.335503	1.9781094	1.0048292	0.173373
Ikb-α		1.3635526	1.487841	0.5362631	1.1714851	0.7433963	0.7902769	0.89703704	1.452288	1.3861512	2.0755541	0.984785	1.1736759
Phase-1 RCT-225		0.8894386	1.436246	1.0092889	1.008125	1.0081178	0.98304605	1.0380981	1.0973544	0.9158313	0.8297837	1.0156213	0.848955
60S ribosomal protein L5 (alternates clone 1)		1.1312357	1.3510758	1.0257547	1.2487524	1.0604762	1.2770531	1.033274	2.5557644	2.4428927	2.9320183	1.2244128	1.068848
Beta-tubulin, class I		1.3134574	1.1745454	1.0745448	1.0178892	0.7678859	0.9845173	1.6342669	1.0425073	1.8465117	1.1768668	0.9050277	1.01372
Multidrug resistant protein-2		0.6886778	0.7489015	1.0400575	1.3277781	0.93035574	1.0131334	0.8597302	2.29287	2.0402007	2.0502715	0.82700235	0.8308448

Table 29

Phase-1 RCT-49	0.968748	0.9202761	0.98477165	1.0089515	0.95272875	1.027578	1.0516976	2.51476631	1.4093959	1.2191465	0.8958889	0.97178733
Cellgranulin B3	0.86502814	0.9718465	0.9718465	0.9718465	0.9718465	0.9718465	0.9718465	0.9718465	0.9718465	0.9718465	0.9718465	0.9718465
NADP-dependent isocitrate dehydrogenase	1.0753866	1.0433866	0.937304078	0.75052434	1.0562282	0.9466958	0.9641026	0.59619534	0.8305724	0.7951672	0.88748016	1.0307186
cytosolic	0.85628456	0.9588953	1.2141957	1.022785	1.2343495	1.0640747	1.0681308	0.61567007	0.8776246	0.814683	1.4784684	1.076334
Oxcarbazepine binding protein 1	0.8821706	0.37378594	0.8454246	0.46853524	0.9011834	1.0466179	0.8405446	0.2282377	0.37797528	0.2703222	1.1232232	1.1564686
Sodium/bile acid cotransporter	1.0001704	0.8615803	0.75630987	0.92778653	0.8719833	1.0057638	0.94339466	0.67280586	1.0694826	0.7787431	1.0262631	1.0439223
Phase-1 RCT-174	0.075081	0.0489069	0.645126	0.918779	0.74965935	1.00348	0.84765226	0.60020196	0.8813278	0.7609864	1.3064134	1.1079888
Phase-1 RCT-177	0.9286056	0.8897354	0.32711095	0.33097288	0.33829197	0.727333	0.5220181	0.57324185	0.41337436	0.5339916	1.2368328	0.80347868
Inositol polyphosphate multikinase (pmk4)	1.428323	0.905609	0.45722555	0.58303237	0.5910049	0.84161868	0.5667403	0.60161316	0.41067332	0.567182	1.3900084	1.2689505
Phase-1 RCT-256	0.9187625	0.82146224	1.0908736	0.8289661	1.0384933	0.86047435	1.0107527	0.3926923	0.376743	0.4083329	1.2549498	1.1335163
Equilibrative nucleoside/nucleosine-sensitive	0.9187625	0.82146224	1.0908736	0.8289661	1.0384933	0.86047435	1.0107527	0.3926923	0.376743	0.4083329	1.2549498	1.1335163
nucleoside transporter	0.9187625	0.82146224	1.0908736	0.8289661	1.0384933	0.86047435	1.0107527	0.3926923	0.376743	0.4083329	1.2549498	1.1335163
CDK102	1.049373	0.9054209	0.96592375	0.7946484	0.8033509	0.98491687	1.1287616	1.4740661	1.1097894	1.2821772	1.1757312	1.0756582
Phase-1 RCT-209	0.7101627	0.8191481	0.8562169	0.8645486	0.87403687	1.03980419	0.8221581	0.958732	0.78469	0.82165704	0.9717459	1.0125495
NADH-cytochrome b5 reductase	0.8793797	0.8842156	0.389714	0.5812394	0.58420914	0.8540046	0.5818122	0.4476457	0.5833913	0.64516866	1.0696733	1.1524508
Dynamin-1 (D100)	1.1650732	0.9384287	1.0420673	0.88990004	1.1588547	0.7389262	1.2310122	0.5021083	0.69889594	0.7320942	1.0844503	1.0897633
Senescence marker protein-30	0.88482496	0.8456749	1.119388	0.78994395	0.89694816	0.92818725	0.8445454	0.3265905	0.5101742	0.47568146	1.6874626	1.2571316
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
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Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
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Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
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Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.6536114	0.9911638	0.86011655	1.0801468	0.84807695	0.93847444	0.7967938	0.7044188	0.89628247	1.0376289	0.9263305
Phase-1 RCT-89	0.84741855	0.										

Phase-1 RCT-168	1.4312359	0.9716588	0.85150564	0.8846261	0.88503046	0.939271	0.98926024	0.66115848	0.64501085	0.8431302	1.347934	1.2113774	1.4237919
Phase-1 RCT-169	0.599474	0.7824347	1.7289752	0.8905372	0.8759294	1.2716333	1.1560131	0.28780186	0.8176907	0.39787993	1.1241272	1.0079953	1.0461265
Beta-elanine synthase	0.8409018	0.8224534	0.86339753	1	0.5797571	0.7266332	0.4979242	1.4456936	0.79223236	1.0718007	1.7114356	1.0206802	0.60257043
Phase-1 RCT-286	0.91664336	0.6471065	1.3524258	0.3842187	0.73510603	1.1892678	1.1151262	0.3549938	0.24109093	0.4301213	0.8515416	1.1304826	1.2382525
Carbonic anhydrase III	0.9850639	0.45347888	0.30315575	0.43508847	0.50678886	0.31889269	0.5052762	0.04207686	0.015505933	0.062394425	1.824037	1.5974911	1.184391
Phase-1 RCT-291	1.1316181	0.8774033	1.033975	0.79798883	0.74529505	0.8920863	0.989139	0.902847	0.87239134	0.87239134	1.24538425	1.1348339	1.1801232
Carbonic anhydrase III, sequence 2	0.4961877	0.6340054	0.65785163	0.6837576	0.45893747	1.3887875	0.90282667	0.13030203	0.27015242	0.2641058	1.5617844	1.1348339	1.0854533
Phase-1 RCT-271	1.0376647	0.7890435	0.88565835	0.72362204	0.1028608	0.8843827	0.8204905	0.56588453	0.22911559	0.7832426	0.8935287	1.2083158	1.3488933
HMG-CoA synthase, mitochondrial	1.8602386	0.6889152	0.6417934	0.46833187	0.59493125	0.7263981	0.8120519	0.69297767	0.7723867	0.6023712	0.7723867	0.9001084	0.8983477
Phase-1 RCT-169	1.0086601	0.86216925	0.63237304	0.7169805	0.61827168	0.7131698	0.9195589	0.9519576	0.7175351	0.9364474	0.9121578	1.2801281	0.8931485
Phase-1 RCT-169	0.95165345	0.9525846	0.9525846	0.6989805	0.7857869	0.9195589	0.9519576	0.7175351	0.9364474	0.9121578	1.2801281	0.8931485	0.8931485
Urinary protein 2 precursor	0.9164261	1.0888848	0.8172527	0.7911507	0.70803034	1.0739368	0.7551284	0.82637113	0.6378441	0.7316048	0.9808198	1.2818902	1.0638522
Paraoxonase 1	0.8813729	0.5616092	0.8348367	0.6425802	0.54607505	0.9092591	0.6864413	0.67404767	0.6454353	0.58886054	1.117527	1.0778529	0.7508856
Liver fatty acid binding protein	0.87833184	0.7253481	0.55938084	0.87273417	0.40830024	0.8859043	0.5730222	0.36734495	0.18831964	0.18752265	1.0042108	1.0051203	0.7508856
Phase-1 RCT-38	0.8983194	0.40765655	0.3724867	0.3402784	0.3952737	0.90545198	0.4589358	0.3978414	0.45693774	0.35523867	0.6194165	0.833715	0.730748
Phase-1 RCT-270	1.2588648	0.80782604	0.9680037	1.054815	0.6542483	0.8770163	0.94232577	0.84181597	0.39210489	0.5153089	0.9268822	1.1653319	1.3534489
Transferrin	0.76870203	0.631298	0.28876987	0.25887788	0.2709392	0.60286863	0.3738004	0.48555225	0.34204984	0.440925	1.0732299	1.2006359	0.7801817
Hepatic lipase	0.98958886	1.0259303	0.91407144	0.81146157	1.2050674	0.8691831	0.82217395	0.30945966	0.33132225	0.33757845	0.9864983	1.113921	0.8597364
Oxochromone P450 11A1	0.83762536	0.46511787	0.0861983	0.6453108	1.3182738	1.166333	1.1662962	0.3550728	0.38484	0.30262575	0.9178893	1.824593	1.0819167
Phase-1 RCT-175	0.8212492	0.8651257	0.6468104	0.7309532	0.56043254	0.894003	0.7207174	1.0874987	0.8071071	0.87723064	1.3143468	1.1982747	1.1952792
Phase-1 RCT-117	0.8779927	0.8376597	1.2131568	0.8045321	0.76070978	1.3469433	0.8523308	0.8523308	0.8523308	1.003985	1.5250492	0.8528877	0.9052916
Phase-1 RCT-137	1.3151113	1.4324816	0.9087442	1.1420352	0.58068044	0.91352236	0.695994	1.0044543	0.8107134	0.84017386	1.2168823	1.2581524	1.0157623
Melanoma-associated antigen ME491	0.8089743	0.895231	1.006887	0.93458724	1.0849781	1.1741955	0.9064989	1.6761239	0.6807897	1.1217319	0.8408794	0.84241367	0.9342007
Phase-1 RCT-12	1.2157556	1.4500699	0.2586902	0.5531039	1.0736140	0.84114105	1.0268844	1.478154	0.9620459	1.6113959	1.258504	0.9229129	1.0069523
Phase-1 RCT-152	1.0780983	1.7324983	1.0694618	1.5908669	1.4661826	1.4455384	0.9931613	3.4195673	3.464468	3.2163753	1.2835128	1.083982	1.1544788
14-3-3 zeta	1.1817652	1.2847176	1.0583912	1.4891407	1.2425185	1.583824	1.2175926	2.0383268	1.2585353	1.6589125	0.78078	0.9403359	1.047875
Oxochromone P450 2C23	0.52736974	0.5885685	0.7870021	0.3355989	0.84871868	0.8718938	0.987718	0.6910441	1.0077412	0.8868499	0.93552214	1.1707373	0.867042
Voltage-dependent anion channel 2 (Vdac2)	1.0476874	1.1535925	0.9683782	0.76893782	0.7900757	0.8228181	2.1300786	1.0572148	1.002148	1.300492	1.1596333	1.3842819	1.3670912
Phase-1 RCT-154	1	1.010553	0.98118056	0.8420867	0.98138364	2.04064	2.2405696	1.6208718	1.0238444	1.6208718	1.0238444	1.0446244	1.0446244
Superoxide dismutase Mn	1.1978778	1.468042	0.802983	1.2285683	0.92855834	0.7700395	2.8805702	2.8805702	2.8805702	2.8805702	1.3848544	1.0474403	1.0844388
c-myc	1.054029	1.2253023	1.0831221	1.1514273	1.2483163	0.7266792	1.3030569	2.3030653	3.6104088	1.8798997	0.88685705	0.948236	1.2428418
Phase-1 RCT-186	0.83542794	0.98143643	1.0221893	0.957783	0.9808025	1.0891447	1.0914168	1.0130168	1.8143878	1.0124345	0.69251156	0.75787586	0.7834595
Cyclin G	0.86955075	0.7757826	1.1054544	0.8323538	1.1674308	1.0757862	1.1428698	2.5818644	2.4444077	2.3687803	0.97064924	0.8825827	1.214957
Calgranulin B5	0.8344095	0.9804692	1.0946667	1.0751868	1.1388598	1.0431057	1.1050771	1.2912143	1.7166878	1.1956623	0.8883114	0.93915298	1.0524352
Phase-1 RCT-205	1.0299168	1.4751181	1.0431721	1.7280716	1.1589204	0.9556348	1.066581	1.3878684	1.4977337	1.3505494	0.8361041	1.0658553	1.0565351
Phase-1 RCT-68	1.1104109	1.1681713	0.97737515	1.146749	1.0010878	0.9459847	0.97390884	1.3821874	2.1811771	1.349382	0.8978102	0.98461395	1.0740385
Caspase 3	1.2377659	1.341619	1.3461572	1.4022784	1.2384872	1.2316831	1.2213261	1.4978876	0.6178659	1.4325238	0.81448395	0.9540178	0.9553233
Alpha-tubulin	1.280247	1.3158734	1.0214727	1.17813	0.8722395	0.9132784	1.001938	1.041385	0.7707072	0.8013848	1.1738698	0.9410509	1.0472288
Ribosomal protein L19A	1.1340872	1.4832586	1.2373719	0.9048504	1.2871315	1.0734574	1.0139568	1.551269	2.8078865	2.2288036	1.0944556	0.9488824	1.0435563
IgE binding protein	1.0424714	1.2960093	1.1533147	1.1264585	1.0623468	0.89285934	2.706431	2.706431	1.8055487	1.1398653	1.059774	0.8528317	0.9266123
Phase-1 RCT-39	0.9863913	1.1814872	1.1849044	1.3134143	1.1153663	1.28135	1.0286824	1.4951581	1.7820252	1.6088498	0.7388039	0.935647	0.89571205
Cofilin	1.0178562	0.8394011	0.8409223	0.8451364	0.8403784	0.906169	0.9851658	0.84760484	2.0307536	0.80919244	1.159981	0.9675216	1.0706868
Heme oxygenase	0.7813662	1.4450086	1.1873062	1.287448	1.9862523	1.4924505	1.7022004	1.3794579	1.7603893	0.95273949	1.3555529	0.9111915	1.0706868
Phase-1 RCT-241	0.7625151	1.171188	0.99876158	1.248113	1.1315988	0.6622441	1.173317	1.2082521	5.1686067	2.833571	0.75380504	0.7021579	0.80195835
Ribosomal protein S9	1.136326	1.3246532	0.9872608	1.5865046	1.037402	0.80362386	0.87688884	3.9794004	3.1277288	3.447332	0.9671615	0.965985	1.131555
Phase-1 RCT-258	0.67638224	0.9238843	0.8759999	0.8415285	0.87193155	0.80781905	0.9465278	1.8378503	1.8964399	1.7185172	0.8830429	0.8752708	0.97017058
Argininosuccinate lyase	0.94039475	0.83147204	0.60317445	0.5637889	0.80160476	0.71095306	0.59928895	1.6344442	1.7299134	1.8216311	1.2292593	1.3923188	1.2346812
Phase-1 RCT-180	0.77088335	0.90915763	0.93465275	0.973053	0.8206683	0.87280746	0.92233276	1.6887604	2.1981727	1.5528243	1.0976607	1.1747824	0.8950815
Multidrug resistant protein-1	0.8778212	0.8298513	1.0866611	0.7839228	1.0596531	1.018382	1.0804597	2.9118135	2.0057546	2.4536557	0.83458465	0.82464254	1.0120523
Omitrine decarboxylase	1.0575385	1.8082198	1.0924271	0.84716884	1.2821811	1.1727189	1.1833097	2.300426	3.70148	4.0321008	1.0720319	1.1186783	1.1695346
Thymosin beta-10	1.8447135	1.1074297	0.8968423	1.128062	0.9615769	1.0045243	0.8072347	1.2492476	1.054894	0.9320112	1.0189558	0.92825507	0.97392894
Phase-1 RCT-109	0.81020406	0.9880831	1.1420139	0.8626955	0.99463984	1.0347316	0.9857167	0.9813537	1.0477194	0.97315739	0.8362592	0.94058494	0.90678274
Phase-1 RCT-72	1.1651517	1.233815	1.0833348	1.1809543	0.7108549	0.98301118	0.8203491	1.7380962	1.4874567	1.7380962	0.8678514	0.89044327	1.0015393
Phase-1 RCT-76	0.9273359	1.0908195	0.9513927	0.9232815	0.9256009	0.96890473	0.89533997	1.0687681	0.94238408	1.2738223	0.7358746	0.714778	0.88930736
Vacuole membrane protein 1	0.96665247	0.9986165	0.68713105	0.8495726	0.7647592	1.0566658	0.9655663	1.0043116	1.9596573	0.8205029	1.0529273	1.0811801	0.8776723

Table 29

Phase-1 RCT-158	0.62871727	0.8731487	1.01859	1.0525323	1.1951684	1.1208495	1.2293366	1.1213176	1.8074675	1.1364514	0.69700873	0.7849749	0.82831925
Phase-1 RCT-113	0.9699883	1.1686648	1.0283492	1.2145302	1.2190608	1.1017714	1.1604939	1.1515381	2.843685	1.2745527	1.0586747	0.82788448	0.91624373
Endogenous retroviral sequence, 5' and 3'	1.2856004	2.7517867	1.2328273	1.2968302	0.8325556	0.8867677	0.9106684	1.0642069	0.6939452	1.3325577	0.72836083	0.8801769	1.0072074
LTR	0.8272831	1.1568769	0.8151819	0.9350786	0.8961991	0.47962517	0.5812687	1.8195505	0.9495761	1.6375195	0.96469583	1.1465247	0.82351494
Beta-actin	1.3870736	1.094252	1.0687254	1.0481574	1.0904137	0.86783594	0.9705321	1.3006668	1.4564623	1.4988978	1.2157159	1.1964607	1.4172748
Phase-1 RCT-65	1.8137842	1.4926396	0.9075093	0.92834268	0.9627468	0.8223582	1.03509	1.205839	1.0619085	1.1772355	1.0881508	1.1715822	0.9841532
MHC class I antigen RT1A10 alpha-chain	0.6888019	0.4469287	1.1651467	0.5194868	1.0758749	0.89861375	0.9843155	1.3634481	1.2035679	1.2662283	0.9620034	0.9178671	0.9769055
Bax (apla)	1.168122	1.1105323	1.0769105	1.1485449	1.0026492	1.0103558	1.113406	1.1947201	1.1931548	0.8689779	0.87457454	0.92284134	1.0041883
Carboxyl reductase	0.7029627	0.8725392	0.82666665	0.807259	0.6381227	0.7146542	0.6754232	0.59219027	0.36802584	0.60649164	1.728411	1.1149781	0.9545385
Beta-actin, sequence 2	1.5218132	1.3843488	0.8687579	1.1245987	1.1291881	1.0974166	0.9140449	0.8656834	1.1697723	1.1146944	0.88834476	0.7772664	0.8361269
Interleukin-10	1.3182726	1.0018103	0.9247953	0.8543958	1.2947253	0.85076294	1.0040449	1.0463908	1.1161467	1.0215257	1.1486519	1.0365446	1.1705621
Phase-1 RCT-191	1.0049605	1.0792477	0.8732846	0.8702798	0.8658933	0.81927305	0.8222976	1.0409655	0.9187337	1.1744232	0.8871905	0.9203316	0.83580537
Phase-1 RCT-111	0.94585145	0.8478578	0.14060186	0.7683969	0.8927621	1.046946	0.82558044	0.8087739	0.5869766	0.7946528	1.388776	1.059742	1.2265785
Apoptosis-regulating basic protein	0.70821296	0.56282103	0.34651706	0.76937197	0.39203542	0.8611652	0.50938854	0.4308888	0.3418812	0.4946183	0.9004765	1.0412313	1.0038175
Glutathione peroxidase	1.4881381	0.81895887	0.86055446	0.76937197	0.904849	0.8737975	0.89432895	0.69962764	0.80802495	0.7033839	0.7724565	0.85406376	0.8838891
Phase-1 RCT-67	0.8411275	0.8307874	0.9882324	1.0540438	1.0918888	0.9833992	1.1209315	1.0828781	1.0979708	1.200964	1.01195	0.923331916	1.0152242
Tryptophan hydroxylase	1.2384677	1.2382232	1.1380172	0.84585	0.8914683	0.81880696	1.0444444	0.4952278	0.63108337	0.5019557	1.4897592	0.8633716	0.852556
Sulfotransferase K2	0.8543385	0.58572497	0.98322344	0.6103121	1.1249338	1.0148748	1.1604339	1.0058545	0.47548077	0.89447335	0.881584	1.0819831	0.97228036
Calgranulin B9	1.01822	0.97471607	1.0170873	0.97808646	0.81633755	0.80388053	0.87943573	0.73835768	0.81983126	0.8921588	1.0142531	0.9898912	1.0542737
Phase-1 RCT-123	1.104524	1.0459054	1.0430107	0.8655757	1.165228	1.0978544	1.1859434	1.0546218	0.82030174	0.8318368	0.7508227	0.9898912	1.0542737
Phase-1 RCT-98	0.9597548	0.857752	0.9895478	0.859147	1.0699058	1.0667807	1.1090204	0.92426395	0.97531635	1.070093	0.8431388	1.0497069	1.0406418
Aquaporin-3 (AQP3)	0.96807868	0.9455405	0.88837125	0.9158814	1.1659752	1.0840057	1.1819235	0.9022855	0.78618874	0.8339192	0.78636334	1.0356107	1.0155251
ShanY-CoA desaturase, liver	4.777615	1.8423983	0.78078175	0.3392854	0.6357844	0.4812248	0.6392986	0.06319088	0.015076696	0.25005876	0.5205733	1.249778	1.5067388
Phase-1 RCT-84	1.5539175	0.9179355	0.6928424	0.8270775	0.8455833	0.88068826	0.85578285	0.8095285	0.2463329	0.777028	1.2337906	1.0501091	1.2741079
(1) Gene expression data for 24 hour													
timepoint are presented as mean ratio of													
treatment/control for all 24 hour predictive													
genes (Table 5).													
(2) Compound and dose abbreviations as in													
Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for													
compound-dose group at 72 h: yes-neo,													
necrosis observed; yes-both, necrosis with													
inflammation observed; no, no histopathology													
observed													
(5) Predictive gene (as in Table 5 and as													
included in Table 28)													

Table 29

Table 28. Expression Data for 24 Hour Timepoint (1)			
Compound-Dose (2)	THEO 100	THEO 100	THEO 100
Animal Number (3)	2534	2535	2536
Liver Toxicity Inflammation Classification (4)	no	no	no
Gene Name (5)			
Gamma-actin, cytoplasmic	0.78594594	0.97891307	0.72943443
Phase-1 RCT-145	0.91574186	0.96798359	0.85065524
Gadd45	1.003104	0.99949396	0.8582763
Phase-1 RCT-78	0.93898533	0.91888814	1.0759662
Fas antigen	1.1769016	1.1550091	1.1224891
Macrophage inflammatory protein-2 alpha	1.0642768	1.118871	1.178175
Integrin beta1	0.9958753	1.0217527	1.0190204
Phase-1 RCT-207	0.88529277	0.8652818	0.86059175
Aspartate aminotransferase, mitochondrial	0.8601697	0.9208655	0.7422213
Casain-alpha	1.0025154	1.0454535	0.9786558
Malic enzyme	0.862876	0.60340106	1.0282205
Phase-1 RCT-30	0.9051461	0.94171995	0.9770096
Hepatocyte growth factor receptor	1.0285422	1.1302722	1.1046553
MAP kinase kinase	1.0489523	1.076368	1.0251946
Sodium/glucose cotransporter 1	2.5327046	1.0254749	0.940983
Phase-1 RCT-27	1.6221023	0.49481867	1.4637878
Phase-1 RCT-50	0.98249906	1.0060899	0.9381525
Phase-1 RCT-192	0.8997751	1.0454226	1.2283906
Phase-1 RCT-288	0.90874445	0.94008686	1.0838721
Phase-1 RCT-37	1.0806079	1.0345812	0.90127534
Organic cation transporter 3	1.0858035	1.0141077	0.93125427
60S ribosomal protein L6	1.0916188	1.0156378	0.83351535
Zinc finger protein	0.9192289	0.83112624	1.0060853
Calgranulin B2	0.6304145	1.0048809	0.9106759
ID-1	1.27314	1.1378935	1.0746839
Phase-1 RCT-62	0.9068178	0.9480542	0.87342894
Phase-1 RCT-115	0.9394565	1.0291935	1.1252848
Matrin F/G	0.8634532	0.75486124	0.8698873
Mitf, homologue (MLH1)	1.0798416	1.0101653	1.0075201
Phase-1 RCT-79	0.9776825	1.0919596	0.95837843
Sorbitol dehydrogenase	1.1778657	1.3451833	0.96302027
Phase-1 RCT-24	1.0812927	1.0805857	1.1312529
Calgranulin B1	0.94093158	1.2008488	0.6612049
Elongation factor-1 alpha	0.84605944	0.8092454	0.7295212
L-gulon-gamma-lactone oxidase	0.8044473	0.94022644	0.7373384
Phase-1 RCT-33	0.91109896	0.80807716	1.0134815
Clun	0.88072175	0.8821594	1.0948552
Phase-1 RCT-233	0.76071817	0.74326813	1.1005937
Phase-1 RCT-36	1.0471901	0.91243786	1.1267406
Phase-1 RCT-242	0.99748135	1.05202	1.0731747
Phase-1 RCT-181	1.1418462	1.0818194	0.8648255
Phase-1 RCT-185	0.64095368	0.57054513	0.8352439
Phase-1 RCT-179	0.8466702	0.7849215	1.0230837
Phase-1 RCT-144	1.051437	0.95828515	0.8664823
IKB-a	1.0870236	0.9245093	0.833147
Phase-1 RCT-225	0.64517287	1.520862	0.7128507
60S ribosomal protein L6 (alternate clone 1)	1.1084635	1.0005352	0.8164751
Beta-tubulin, class I	1.209421	1.0307627	1.0623822
Multidrug resistant protein-2	1.0233074	0.8894162	0.82439774

Table 29

Phase-1 RCT-49	0.83924624	0.8415658	0.86749357
Calgranulin B3	1.2005879	1.25477728	0.97099787
NADP-dependent isocitrate dehydrogenase, cytosolic	0.9544158	0.8292145	0.8635525
Octamer binding protein 1	1.1262	1.1816218	1.1352085
Sodium/bile acid cotransporter	0.618581	0.57089823	0.8713076
Phase-1 RCT-174	0.8589178	0.84215754	0.9859721
Phase-1 RCT-77	0.8283021	0.7832925	0.88240874
Inositol polyphosphate multikinese (Ipmlk4)	0.68175365	0.60073288	0.8406536
Phase-1 RCT-256	0.8532656	0.9375385	0.77294534
Equilibrative nitrobenzylthioinosine-sensitive nucleoside transporter	1.1670045	1.1187329	0.8148723
CDK102	0.9802107	0.8828788	0.8742017
Phase-1 RCT-209	0.96257424	0.82922745	1.0547599
NADH-cytochrome b5 reductase	0.90693027	0.74825686	0.8986671
Dynamin-1 (D100)	1.0086985	0.7873034	1.0084864
Serum albumin marker protein-30	1.0749152	1.0400483	1.0165031
Phase-1 RCT-89	0.7177791	0.62443787	0.7236195
Camitine palmitoyl-CoA transferase	1.1797856	1.0452081	1.0220225
Alpha-2-microglobulin	0.91298383	0.68394274	0.8702764
Apolipoprotein CIII	1.1462439	1.0424675	0.9057154
Cathepsin L sequence 2	0.9784191	0.7744115	0.8270517
Phase-1 RCT-141	3.31068	4.834559	2.027494
Phase-1 RCT-289	0.78335303	0.78567864	0.8824657
Endothelin-1	1.0724537	1.167452	1.2275028
Phase-1 RCT-282	1.0869487	1.2131404	1.0519704
Phase-1 RCT-140	0.88287615	1.034618	0.9928755
Cyclin D1	0.6929358	0.60229584	0.8103465
Phase-1 RCT-287	0.89935323	0.8789643	0.9114314
Phase-1 RCT-281	0.904338	0.8643923	0.942246
Retinol-binding protein (RBP)	1.091891	1.0661339	0.85321145
ATP-stimulated glucocorticoid-receptor translocation promoter (GK)	1.0465283	1.0800432	0.8743004
Phase-1 RCT-60	0.8353465	0.8978088	1.1144725
Pyruvate kinase, muscle	0.87675985	0.8030135	0.81706353
PAR interacting protein	0.83973804	0.94314253	0.80764755
Nucleoside diphosphate kinase beta isoform	1.1135342	1.1776426	1.054133
Gadd153	1.1672707	1.1495482	0.98455588
Insulin-like growth factor binding protein 1	0.9599903	0.8370088	0.946153
c-H-ras	1.1778839	1.2190326	0.93542105
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	0.80210847	0.60114694	1.114861
Phase-1 RCT-52	0.8211117	0.7137491	1.1232841
Alpha 1 - inhibitor III	0.57026994	0.56340463	0.9058415
Sterol carrier protein 2	1.1091444	0.9886087	1.0873641
Organic anion transporter 3	1.0918518	1.8182615	1.1941689
Calgranulin B4	0.89023414	0.9880884	1.111008
Phase-1 RCT-182	0.8071315	0.82314545	0.91016908
Calgranulin B8	0.7607451	0.7471206	0.8318646
Aldehyde dehydrogenase, microsomal	0.9396029	0.894696	0.9189517
Phase-1 RCT-128	0.8498232	0.727314	0.8631817
Phase-1 RCT-102	0.8194567	0.6615052	1.057681
Preproalbumin, sequence 2	0.8905574	0.74350554	0.934407
Andropodain All	0.3787842	0.37627846	0.70884083
Phase-1 RCT-10	1.093487	0.71814287	0.96578927
Phase-1 RCT-48	0.84217244	0.7051029	1.0403283
Phase-1 RCT-3	1.0483705	0.75688314	0.91237605

Table 29

Phase-1 RCT-168	1.3341461	1.1300302	1.2070315
Phase-1 RCT-48	0.9663817	1.1775694	1.2058598
Beta-alanine synthase	0.99385985	0.94475836	0.8075121
Phase-1 RCT-290	0.40811788	0.35493824	0.8180564
Carbonic anhydrase III	0.40517632	0.6725268	0.73623204
Phase-1 RCT-281	0.90541965	0.84240645	0.98498907
Carbonic anhydrase III, sequence 2	0.98108545	1.2191821	1.2293885
Phase-1 RCT-271	0.7494949	0.80432856	0.74826527
HMG-CoA synthase, mitochondrial	0.68125427	0.77400607	0.5971918
Phase-1 RCT-189	0.93218404	0.952063	0.8467708
Phase-1 RCT-40	0.7804126	0.850847	0.9638959
Urinary protein 2 precursor	0.8367152	0.5344215	0.7873751
Paraoxonase 1	0.8251723	0.5174809	0.776988
Liver fatty acid binding protein	0.75528467	0.7554367	0.76701903
Presenilin-1	0.620445	0.37279692	0.833534
Phase-1 RCT-38	0.9491294	0.9915039	0.8093461
Phase-1 RCT-270	1.0386169	0.9197203	0.8672839
Transferrin	0.6691372	0.8464093	0.8291809
Hepatic lipase	0.8769535	0.40631115	1.0597035
Cytochrome P450 11A1	0.7008663	0.62562305	1.0276171
Phase-1 RCT-175	0.8885932	0.7448218	0.9832081
Phase-1 RCT-117	0.96458346	0.9277731	0.83359284
Phase-1 RCT-137	0.60914836	0.8688488	0.9184684
Melanoma-associated antigen ME491	1.3887467	1.7286536	0.8945096
Phase-1 RCT-12	1.085943	1.0541285	1.0822709
Phase-1 RCT-152	1.0012881	0.9123893	0.89293477
14-3-3 zeta	0.90749776	0.8827285	1.0356712
Cytochrome P450 2C23	0.60655877	0.36186218	0.78720355
Voltage-dependent anion channel 2 (Vdac2)	1.0933318	1.173226	0.8625908
Phase-1 RCT-154	1.0685142	1.2774626	0.9448297
Superoxide dismutase Mn	1.209133	1.5191853	0.9344253
c-myc	0.8592542	0.7950935	0.8681663
Phase-1 RCT-186	1.019003	0.90070134	1.1251172
Cyclin G	1.5162739	1.4245207	1.1122184
Calgranulin B5	0.95240817	0.9222741	1.0842701
n53	0.85433954	0.9285175	0.8018966
Phase-1 RCT-205	0.9854053	0.9558254	0.8941006
Phase-1 RCT-68	1.0248825	1.2335961	0.9391443
Caspase 3	0.9965033	1.0739098	1.0246888
Alpha-tubulin	0.92739286	0.9581691	0.8999808
Ribosomal protein L13A	0.990069	1.0085459	0.82963576
IgE binding protein	1.0498761	1.0793182	0.9424166
Phase-1 RCT-39	1.039871	1.0944984	1.120013
Cofilin	1.1298278	0.89851238	0.9337457
Heme oxygenase	1.0146351	0.7345184	0.85630935
Phase-1 RCT-241	1.1394907	1.0942625	1.1416953
Ribosomal protein S9	0.7332107	0.8478302	0.7787006
Phase-1 RCT-258	0.89234736	0.92890584	0.9313084
Argininosuccinate lyase	0.83092207	0.802727	0.82535072
Phase-1 RCT-180	0.8893652	0.9490431	0.8475963
Multidrug resistant protein-1	0.88026994	0.93078876	0.84668805
Omitidine decarboxylase	1.1164699	1.2337508	1.000984
Thymosin beta-10	0.97078444	1.02398	0.79330474
Phase-1 RCT-72	0.93962735	0.97965984	1.005357
Phase-1 RCT-109	0.9676464	0.8998475	0.8108324
Phase-1 RCT-78	0.931341	0.91253114	0.8289546
Vacuole membrane protein 1	0.69853175	0.70681524	0.8286983

Table 29

Phase-1 RCT-158	1.0177301	1.0898222	1.1699955
Phase-1 RCT-113	0.99154558	1.0241038	0.9269980
Endogenous retroviral sequences, 5' and 3'	0.94410974	1.1292355	0.9172262
LTR			
Beta-actin	0.5805013	0.78548074	0.6145368
Phase-1 RCT-65	1.3983315	1.2834874	1.1699543
MHC class I antigen RT1A1(0), alpha-chain	0.7744404	1.3755641	0.878019
Bax (alpha)	1.0446929	1.1844269	1.093296
Carbonic dehydratase	1.1043767	1.1847073	1.1232936
Beta-actin, sequences 2	0.80486637	0.90577884	0.7625767
Interleukin-10	1.2232448	1.1103532	1.0529393
Phase-1 RCT-191	0.9201004	1.083967	1.0494838
Phase-1 RCT-111	0.63510007	0.7034315	0.5859794
Apoptosis-regulating basic protein	0.7433428	0.80536383	0.7843915
Glutathione peroxidase	0.46700314	0.39502438	0.82144
Phase-1 RCT-239	0.7805749	0.89149824	0.94754094
Phase-1 RCT-67	1.1280022	1.0281028	1.1566588
Tyrosinase	0.48671588	0.40342534	1.0189437
Sulfotransferase K2	0.8232285	0.7302794	0.84405327
Calgranulin B9	1.0088048	1.1000786	1.036045
Phase-1 RCT-123	0.37450703	0.8392087	0.92834868
Phase-1 RCT-98	0.8602572	0.9242118	1.0401235
Aquaporin-3 (AQP3)	0.10802843	0.07866228	0.48875903
Stearyl-CoA desaturase, liver	0.72655076	0.59028256	1.1188107
Phase-1 RCT-64			
(1) Gene expression data for 24 hour timepoint are presented as mean ratio of treatment/control for all 24 hour predictive genes (Table 5).			
(2) Compound and dose abbreviations as in Table 1.			
(3) Individual animal number			
(4) Liver inflammation classification for compound-dose group at 72 h: yes=recr, necrosis observed; yes-both, necrosis with inflammation observed; no, no histopathology observed			
(5) Predictive gene (as in Table 5 and as included in Table 26)			

Table 29

Table 30. Expression Data for 72 Hour Timepoint														
(1)	5-FU 13	5-FU 13	5-FU 13	5-FU 50	5-FU 50	5-FU 50	5-FU 50	5-FU 50	5-FU 50	5-FU 50	5-FU 50	5-FU 50	5-FU 50	5-FU 50
Compound-Dose (2)	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
Animal Number (3)	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Phase-1 RCT-107	1.0781641	1.1578256	1.239701	1.1342289	0.9466555	1.0133674	0.9410233	0.8202452	1.0063459	1.1841815	1.1149566	1.0891083	1.4503918	1.4503918
Beta1ne homocysteine methyltransferase (BHMT)	0.419078	1.173935	0.8100821	0.80051495	0.47018397	0.6716519	1.1135346	1.0328261	1.3002598	0.6279419	0.6484171	0.7125044	1.148337	1.148337
Proliferating cell nuclear antigen gene	1.0201807	0.8158989	1.4140704	1.0238171	0.87750566	0.9469898	1.1177591	0.9603862	1.1330894	1.4332315	1.1575084	1.1337144	0.8678046	0.8678046
Cytochrome P450 2D18	1.1583376	1.1605132	1.0560909	1.0338767	1.1123887	0.9365376	0.94343197	0.7558375	0.84765626	0.57172965	0.57172965	0.7153493	0.9772111	0.9772111
Cytochrome P450 2C11	0.91647138	0.8312135	1.0934676	0.8027289	0.82460124	0.96789334	1.2184656	1.1133205	1.2780035	0.39103856	1.117169	0.7480099	0.9477041	0.9477041
Phase-1 RCT-280	0.8542938	1.1278919	0.8451277	0.8637851	0.5548385	0.84440064	1.0728984	1.0424041	1.1947466	0.8673889	0.76378883	0.8829273	1.0829717	1.0829717
Phase-1 RCT-59	1.0631596	0.7407643	0.7651773	0.8164638	0.88746125	0.86284727	1.1274086	1.0072183	0.85429835	1.0148406	1.0282935	1.1934863	1.2884445	1.2884445
Beta-actin, sequences 2	0.91200346	1.075999	0.8473014	0.9673183	0.8791355	0.8839514	0.76077473	0.83350635	0.8877473	0.83350635	0.8877473	0.7247665	1.0829717	1.0829717
Phase-1 RCT-292	0.106597	1.0188742	0.8766699	0.91298405	0.9965693	0.8973333	0.89307608	1.0724427	0.9853155	1.1609571	1.0046117	1.0885233	1.0007368	1.0007368
Pyruvate kinase, muscle	0.9282224	0.782378	0.921054	0.923309	0.82023834	0.7854532	1.1181059	1.0366006	1.116298	1.0008781	1.0046117	1.0885233	1.0007368	1.0007368
Osteocalcin	0.969951	1.0700635	1.085526	1.129316	1.2060588	1.1870325	1.225242	1.056018	1.0182258	0.91250776	1.1674411	0.8973806	1.0335582	1.0335582
Calgranulin B1	1.0717757	1.2180904	1.2642843	1.1857843	1.0922923	1.0381172	1.268951	0.4435457	1.1001171	1.1609129	0.9088038	1.0687796	0.9730041	0.9730041
Apolipoprotein AII	0.8000239	1.0836588	0.8252666	1.085082	0.9929398	0.7764584	1.3203215	0.8051888	1.0551484	0.84715346	0.8976258	0.5233111	1.3898821	1.3898821
Connexin-32	1.285848	1.1239316	1.2209723	1.2675593	1.2855315	1.0718326	0.82305924	0.7234583	0.74497825	0.8542973	0.8798032	0.8101292	1.2612486	1.2612486
Phase-1 RCT-109	0.8685114	0.83571947	0.8819622	0.91276675	0.9109769	0.84941137	1.0944417	0.8537247	0.9175308	0.8342056	0.83633673	0.96051174	0.9605108	0.9605108
Glycine methyltransferase	1.0341022	1.4220668	1.3221622	0.8464589	0.9857392	0.96484556	0.9303782	0.4412847	0.9673399	0.85946653	1.0037373	0.8129824	1.8287463	1.8287463
L-glutamate-gamma-butyrate oxidase	0.7348025	1.404983	1.238826	1.0506169	0.77873545	0.93128868	0.8338444	0.5378216	0.5741804	0.5916842	0.6005476	0.7148243	0.8403884	0.8403884
Phase-1 RCT-258	0.93418368	1.2094859	1.0525705	0.947376	0.85254188	0.91325134	1.1324369	0.8712092	1.086797	0.7130068	0.87211233	0.8813877	0.8100849	0.8100849
Carbonic anhydrase III	1.2174336	1.2717098	1.184523	0.8512765	0.9206887	0.2759828	1.1465468	0.7812461	0.45341435	0.98455745	1.5303383	0.4008894	0.5851725	0.5851725
Phase-1 RCT-78	1.003851	1.061211	1.052488	1.016006	1.2499881	0.9893712	1.0339832	0.9280338	2.089191	0.95880755	0.79755104	0.9898477	1.0058997	1.0058997
Urylase protein 2 precursor	0.5725072	0.72988504	0.68355054	0.64116985	0.7143095	0.6913182	1.049113	0.8200223	0.9888137	0.3448864	0.73115635	0.3108277	0.6372005	0.6372005
Insulin-like growth factor I	0.6283313	0.7038528	0.720224	0.6800414	0.77720884	0.76738036	0.798738	0.8076874	0.86420836	0.52387663	0.5395567	0.53441405	0.7033905	0.7033905
Ap1 sulfotransferase	0.7028047	1.0856037	1.038929	0.75124284	0.7410725	0.9666885	1.2390324	1.0426973	1.153474	0.78424118	0.7975361	0.6483179	0.8068976	0.8068976
Phase-1 RCT-185	0.7316498	0.9300018	0.8658004	0.89885084	0.9494052	0.5506588	0.8652228	0.80856805	0.87515148	0.6635495	1.0508847	0.675567	0.7383951	0.7383951
Connin	0.8687752	0.93152267	0.8598864	0.8072376	0.91253287	0.7562591	0.7657474	0.81799173	0.77417195	0.59636314	0.728577	0.5394255	0.85463085	0.85463085
Statfathin	1.0413896	1.0483744	1.142105	1.054851	1.1851743	1.1240172	1.0451556	1.0147207	0.9428878	1.250439	1.0094224	1.3013003	0.8624678	0.8624678
60S ribosomal protein L6	0.81672806	0.8483287	0.84863896	0.7680135	0.77204555	0.83973247	1.0142378	0.9788036	0.94035163	0.8431895	1.171523	0.83185084	0.8582534	0.8582534
Calpactin I heavy chain	0.98456325	0.86285	1.0546522	0.88781374	0.78915	0.88794076	1.460541	1.1426837	0.94035163	1.163723	0.910305	1.0837501	1.2041775	1.2041775
Collagen type II	0.7163266	0.8514535	1.103215	1.2718824	1.162186	1.102708	0.9455115	1.0408948	0.8488485	1.156988	0.9224081	0.90313894	1.268098	1.268098
Phase-1 RCT-178	0.9435653	0.9855681	0.9642185	1.0806706	0.9315319	0.9270182	1.169256	1.32218	1.1325524	0.8107591	0.9831401	0.95154168	0.8557884	0.8557884
Voltage-dependent anion channel 2 (Vdac2)	0.9197295	1.1378814	1.0468268	1.0095407	0.96897813	1.073701	1.0633902	0.9750138	1.0769008	0.89703155	0.90948975	0.8478506	0.87280357	0.87280357
Phase-1 RCT-182	0.8399137	0.9046559	0.838625	0.8466866	0.85089144	0.86483634	1.1617124	0.847814	0.86445197	0.71028784	0.82805675	1.0700417	0.99400693	0.99400693
Adenine nucleotide translocator 1	0.8235181	0.68973064	0.71701914	0.55813134	0.623817	0.59452895	0.8268881	0.94950104	0.8913767	0.91455044	0.8238917	0.97818344	0.89548256	0.89548256
Thymosin beta-10	0.897547	0.8344549	0.853404	0.7035356	0.70763883	0.691427	1.5268857	0.98622566	1.0101712	0.79506904	0.90605295	0.6954628	0.8350063	0.8350063
High affinity IgE receptor gamma chain (FcεR1gamma)	0.8997756	0.62943	0.84886265	0.6539848	0.7522562	0.7487342	1.385185	0.99933028	1.0533898	0.98365897	0.9042286	0.9116559	0.94181037	0.94181037
Gamma-actin, cytoplasmic	0.7517159	1.0923398	0.7758412	1.1703815	1.0074474	0.85923076	0.87483886	0.7037224	0.73209304	0.9575826	0.75590634	0.5924163	1.12372	1.12372
Uncoupling protein 2	1.0084312	0.89775854	0.9049379	0.9235997	0.750951	0.7013487	1.4648445	1.066118	0.8593831	0.9677513	0.98017764	1.1875461	1.0745637	1.0745637
Phase-1 RCT-34	1.2457832	1.0576417	1.0418319	1.2033292	1.277064	1.4441581	0.8912624	0.9851125	1.1800971	1.3174835	1.0286012	1.1276772	0.85863976	0.85863976
Phase-1 RCT-31	0.8594648	1.1737993	0.9161474	0.8516018	0.9579766	0.8318341	0.64628035	0.7274325	0.73431015	0.5243588	0.686428	0.512163	0.67080865	0.67080865
Cyclin D1	0.85837107	0.5427309	0.8305812	0.9892584	0.89331774	0.85060334	0.79048387	0.88927	0.9462815	1.1397063	1.3300858	0.885514	0.8887842	0.8887842
IgE binding protein	0.8768226	0.7910359	0.97154576	0.9352385	0.7600406	0.89185104	1.3118135	1.0924072	1.062813	1.281787	1.0479485	1.1409715	1.0813518	1.0813518
Zinc finger protein	1.0401613	0.9781506	1.120123	1.0592479	1.087815	0.9883316	0.86295856	1.0674223	0.9785439	1.018098	1.082599	1.0153428	1.1855369	1.1855369
Phase-1 RCT-158	0.87360275	0.94468198	0.8201236	0.86528155	0.74590886	0.74590886	0.95426995	0.863988	0.9867405	1.084472	0.9515162	1.0480869	0.9830451	0.9830451
Alpha-tubulin	1.5154852	0.89356633	0.86834166	0.95828764	1.0310849	0.9280819	1.863088	1.0206333	0.96839744	1.187194	1.3039474	1.304522	1.3282887	1.3282887
Alpha-prothymosin	0.8115841	0.86556145	0.8561143	0.7226928	0.9715313	0.86562526	0.8342166	0.8937981	0.8630845	0.51427984	0.72541744	0.5318328	0.6845507	0.6845507
Calpain 2	0.9167102	0.8971265	1.054394	0.9315786	0.91227716	0.92713857	0.8456109	0.9700413	0.954222	1.390484	1.0323583	1.0608524	0.98388466	0.98388466
Phase-1 RCT-12	1.2208481	1.1157202	1.1148968	1.208064	1.1607248	1.0571898	0.9497279	0.8788804	0.8230778	1.0543516	0.8187002	0.86487427	1.040774	1.040774
Calgashin B	0.8388804	0.95007838	0.83138674	0.8064224	0.9005088	0.9585695	1.031088	0.9897619	1.0337853	0.70828	0.9764546	1.0153428	1.07502277	1.07502277
Phase-1 RCT-24	1.3623462	1.0563393	1.0210133	1.2807222	1.1607474	1.0679629	0.9007047	0.8607509	0.8078434	1.0136763	1.0153428	1.0654734	1.2047787	1.2047787
Melanoma-associated antigen ME491	1.145443	0.9585842	1.06653	0.9292073	1.1755859	0.9954493	1.0263902	1.1453508	1.039014	1.4041648	1.0117372	1.178277	1.0871026	1.0871026

Table 30

Phase-1 RCT-68	1.0330418	1.0902893	1.1286043	1.1040128	1.1150608	1.0248706	1.0319358	0.9511939	1.2638565	0.8616104	1.0947447	1.0168325
Cyclin G	0.9455607	0.9381688	1.4717833	0.8712385	1.4496092	1.2251924	1.1442724	1.2058114	1.7653842	1.2416883	0.9707713	1.2168863
Hypoxanthine-guanine phosphoribosyltransferase	0.9022907	0.99214077	0.7495764	0.7036116	0.6259564	0.8893281	0.9691924	0.7657512	0.7845659	0.7687167	0.8740243	0.7687167
Tissue inhibitor of metalloproteinases-1	1.0473988	0.9414594	1.0709399	1.0284758	1.0265947	1.3366022	1.2720761	1.2557808	0.7503908	1.0195434	0.7878453	1.1845405
U-1	1.2206046	0.8963707	0.8922854	1.0050285	1.0469813	1.2988895	1.2070692	1.0327045	1.2467414	1.0203574	1.1892215	1.1921038
Ribosomal protein S9	0.9445772	0.8995425	0.8423289	0.73118026	0.84625853	0.8115394	0.88961816	0.9107216	0.70725447	0.90887414	0.5763723	0.9868961
Heme oxygenase	0.9025708	1.135419	0.86155828	0.9341835	0.94558084	1.1712598	1.3451879	0.7873155	0.6153707	0.7873155	1.137639	1.0255673
Ribosomal protein S8	0.7313188	0.7608143	0.7209185	0.7627183	0.7604317	0.7008884	1.1288764	0.9248457	1.0085388	0.9201059	0.8601954	0.8079844
Ribosomal protein S17	0.8424332	0.821301	0.8002398	0.79895094	0.9217851	0.79431833	1.1288764	0.9248457	1.0085388	0.9201059	0.8601954	0.8079844
Nucleoside diphosphate kinase beta isoform	0.8627273	1.0236825	0.90525323	0.92172371	0.8606448	0.9311594	0.92407812	0.8192705	0.87706004	0.7493784	0.7719555	1.040557
Phase-1 RCT-121	1.0867867	0.99787668	1.1078193	1.0369955	0.8455974	0.9311594	1.0918413	0.9583515	1.3244884	1.0861709	1.1452704	1.040557
14-3-3 zeta	0.7747525	0.8080512	0.8577284	1.0638145	1.0654646	0.85058933	0.9552592	1.1251112	0.96398385	1.2500001	1.0913712	1.0639106
Phase-1 RCT-154	1.0739576	1.0081358	0.8577284	1.0638145	1.0654646	0.85058933	0.9552592	1.1251112	0.96398385	1.2500001	1.0913712	1.0639106
Phase-1 RCT-283	0.8825884	1.0813825	0.8955578	0.991882	0.84218365	1.0034672	1.0383064	1.108654	0.8940318	1.2052635	0.9005458	1.1758225
Annexin V	0.9107205	0.725246	0.80254855	0.7797258	0.5877688	0.6922823	1.3929162	1.2597852	0.99571484	1.0942856	0.91484046	0.8834958
Complement factor I (CFI)	0.9500687	0.7628497	1.0544614	0.9270864	1.0163861	1.1805387	0.9516834	0.96846557	1.10033226	1	0.9228605	1.1788558
Phase-1 RCT-276	0.9787567	0.96029168	0.815413	1.00483	1.1303508	1.115812	1.1284832	1.1483889	1.1023006	0.9908772	1.2673923	0.85181256
Tyrosine aminotransferase	0.81433681	0.5608783	0.62833405	0.77863954	0.6058875	1.0494115	0.7916314	1.162412	1.0935771	0.42913947	0.6885578	0.46093655
Glutathione peroxidase	0.9650847	0.8282028	0.6029375	0.8051342	0.85715336	0.82447175	0.7916314	1.162412	1.0935771	0.42913947	0.6885578	0.46093655
Histidine-rich glycoprotein	0.84537365	1.206156	0.73176616	0.83243835	0.89444315	1.128004	0.6107879	0.7520968	0.8281256	0.9031564	0.43946878	0.71251035
Carbonic anhydrase III, sequence 2	0.84537365	1.206156	0.73176616	0.83243835	0.89444315	1.128004	0.6107879	0.7520968	0.8281256	0.9031564	0.43946878	0.71251035
Phase-1 RCT-92	1.1737218	1.4082267	1.4488391	1.0327766	0.804527	0.8161689	1.0484004	0.8583331	0.7120283	1.1909455	0.8228841	0.7583865
Transitional endoplasmic reticulum ATPase	0.9328287	0.82174546	0.9537489	0.8828074	0.8748804	0.8127787	0.7807287	0.874114	0.8655002	0.95478896	0.74073035	0.69083565
Phase-1 RCT-88	0.9460314	1.0559794	0.81099855	0.9369086	0.9748804	0.8127787	0.7807287	0.874114	0.8655002	0.95478896	0.74073035	0.69083565
Phase-1 RCT-298	0.7185435	0.70142925	0.55316293	0.8688913	0.79306975	0.800336	0.9371307	0.7199503	0.90752596	0.8039746	0.8300018	0.841679
Phase-1 RCT-161	1.0998224	1.1397295	0.9932523	0.7832766	0.8401788	0.811005	0.88243726	1.0051868	0.937239	0.95793124	0.9510303	0.75251985
Glutathione S-transferase theta-1	1.0173002	0.8026063	0.81099855	0.9369086	0.9748804	0.8127787	0.7807287	0.874114	0.8655002	0.95478896	0.74073035	0.69083565
Phase-1 RCT-168	1.0173002	0.8026063	0.81099855	0.9369086	0.9748804	0.8127787	0.7807287	0.874114	0.8655002	0.95478896	0.74073035	0.69083565
JNK1 stress activated protein kinase	0.98715176	1.0813556	1.0259884	0.9369086	1.1199147	1.9125434	1.2688286	1.10341	1.2560817	1.4868103	1.141679	1.1607058
Phase-1 RCT-81	0.97852765	1.0285765	0.88216086	0.9235128	1.0425531	0.98760324	0.92115994	0.9497643	0.9520583	0.923278	1.1157246	0.86286837
Phase-1 RCT-33	1.0513141	1.0208912	0.8507095	0.9685988	1.1613883	1.1654288	1.2307981	0.8849911	1.0032569	0.8022854	0.86564048	0.9742263
Phase-1 RCT-178	1.144369	1.3758993	1.0580138	2.1025362	1.1205868	1.0746242	0.73961574	0.8849911	1.0032569	0.8022854	0.86564048	0.9742263
Apolipoprotein CIII	0.9517704	1.011242	0.87115425	0.8812347	0.8227258	0.7497384	0.9541129	0.90935884	0.97450805	0.9246684	1.0221088	0.83160527
Phase-1 RCT-98	0.9450135	0.9875153	0.9567405	0.8894497	1.0220274	0.8827883	0.8118983	0.7127258	0.7237665	0.7232543	0.5394373	0.5670971
NADH-cytochrome b5 reductase	0.8822391	1.0752046	0.7111274	0.8968306	0.8903465	0.55162376	0.84697894	0.74203724	0.7483726	0.8284451	0.8718423	0.9885578
Alpha 1 - Inhibitor III	0.8335401	0.69947016	0.8690378	0.70078135	0.81818044	0.5031044	0.5951214	0.6468224	0.64238955	0.58535184	1.1454055	0.5786404
Phase-1 RCT-233	0.94070005	1.008627	1.0205844	0.9415993	1.0881337	0.7951288	0.7670337	0.9371397	0.8709145	0.8905105	0.8559685	0.87857355
Paraoxonase 1	0.71647826	0.632424	0.49685384	0.7062079	0.7205704	0.73153335	0.75392826	0.7265468	0.8428025	0.7148404	1.382435	0.5291144
Presenilin-1	0.68780327	0.6949133	0.70328184	0.7136893	0.8378685	0.49631718	0.60953325	0.6652092	0.6408032	0.59631666	1.1957431	0.57761024
Apolipoprotein C1	0.8748685	1.0780888	0.83683157	0.7527275	0.85918847	0.73023178	0.6118983	0.7127258	0.7237665	0.7232543	0.5394373	0.5670971
Cytochrome P450 2C23	0.6554183	0.85561603	0.91419107	0.89305336	0.78528076	0.87604184	0.73147285	0.6188837	0.80840147	0.8849759	0.72055485	0.62332884
Phase-1 RCT-227	0.87878988	1.0533893	1.1532978	0.8942071	1.3262522	0.8221884	1.021454	0.83243304	0.80855634	0.7488204	0.73221654	0.782748
Hepatic lipase	0.9178105	0.68665745	0.49696366	0.5491536	0.66951064	0.589095	0.606584	0.6933517	0.8424337	0.7070553	1.2081558	0.69482657
Phase-1 RCT-164	1.075194	1.0326831	1.0398846	1.0560999	1.0442871	1.0720721	0.87613895	0.89871487	0.85192486	0.89871487	0.84718896	0.76845057
Mitochondrial protein-2	1.2035265	0.87267303	1.0378077	1.044017	1.0718092	0.2825608	1.121188	1.07752	1.1486143	1.5058955	1.1422175	1.0772580
Insulin-like growth factor I, exon 6	0.67077168	0.7061887	0.9318289	0.7817259	0.87670425	0.93586313	0.7381311	0.87436867	0.841421746	1.0358677	0.911454	1.0738481
N-hydroxy-2-acetylaminofluorene sulfotransferase (STC1)	0.1933285	0.724462	0.8270077	0.86453865	0.79900175	0.9502388	0.82701355	0.9833823	0.7263874	0.9891685	0.5222511	0.6658469
Dynamin-1 (D100)	1.0033746	0.9972388	1.0340531	1.0128713	0.8980399	1.0375509	0.8539075	0.778178	0.8284993	0.9832058	0.8284993	0.9832058
DNA polymerase beta	0.89140177	0.8548746	0.85492184	0.7532286	0.931242	0.8631288	0.80876466	0.76202893	0.82222354	0.58161237	0.6061924	0.8344272

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Phase-1 RCT-173	1.2212738	0.9523045	1.1816238	1.0549021	0.8488876	0.994228	0.9935157	0.9935985	0.7902179	1.4063168	1.0787874	1.2786305	1.195326
Ubiquitin conjugating enzymes (RAD 6 homologue)	1.0530167	0.96915868	0.90408734	0.86208724	0.9763135	0.9764624	0.900085	1.057086	1.0284458	0.87301946	1.0113631	0.95133346	1.0588142
Ribosomal protein L13A	1	0.84786004	0.8928293	0.86347304	0.8352346	0.8050952	1.3499919	1.0324097	1.0203551	0.8828917	0.8188752	0.62523055	0.6332788
Phase-1 RCT-144	1.02001	0.8740591	0.8930726	1.03942	1.0963427	1.0168918	0.8863427	1.189511	0.857203	1.3824978	1.3191203	1.187885	0.9754512
Ch-1ab	1.0041892	1.1998361	1.1155997	1.168419	1.1825588	0.9474335	0.9474335	0.9607227	0.8802427	1.1865585	1.1403238	1.132027	1.0811523
Vesicular monoamine transporter (VMAT)	1.0949757	1.3949607	1.2468286	1.1459317	1.1459317	2.8754902	1.1369898	1.2016082	1.2016082	1.9649858	1.1776403	1.3870059	1.0424217
Phase-1 RCT-273	1.0143133	1.0524197	1.0183341	1.0844775	1.0140773	1.891821	1.0185154	0.9812825	1.145591	1.7325209	1.8326114	1.404002	1.0102078
Phase-1 RCT-74	1.0368474	1.2081572	1.11468	1.1576287	0.9896152	2.8265271	1.2182211	1.0687944	1.064041	1.9163368	1.1768075	1.4005544	1.0760858
Phase-1 RCT-40	1.0895914	1.0717949	1.2146795	1.4023653	1.1105456	1.1537037	1.0490567	1.0754809	1.5861918	1.9673926	1.2630268	1.1693175	1.0760858
Phase-1 RCT-158	1.0389903	1.2543009	1.0281663	1.1537137	1.0429862	2.1589277	1.0280525	1.0754809	1.5861918	1.9673926	1.2630268	1.1693175	1.0760858
Phase-1 RCT-158	1.0389903	1.2543009	1.0281663	1.1537137	1.0429862	2.1589277	1.0280525	1.0754809	1.5861918	1.9673926	1.2630268	1.1693175	1.0760858
Deoxyribonucleic kinase	1.0898454	1.0738254	1.1994454	1.5327798	1.0717583	1.0768571	1.0717583	1.0768571	1.0717583	1.0768571	1.0717583	1.0768571	1.0717583
Inositol polyphosphate multikinase (IPMK)	1.0592992	1.17569	1.1138974	1.0717583	1.0768571	1.0768571	1.0768571	1.0768571	1.0768571	1.0768571	1.0768571	1.0768571	1.0768571
Neuronal cell adhesion molecule (NCAM)	1.1889217	1.2764768	1.1730386	1.3620418	1.048101	2.493827	1.048101	2.493827	1.048101	2.493827	1.048101	2.493827	1.048101
Hepatocyte growth factor receptor	1.1104872	1.1393399	1.3434706	1.09698426	1.0717583	1.0768571	1.0768571	1.0768571	1.0768571	1.0768571	1.0768571	1.0768571	1.0768571
Empty	1.0762386	1.123321	1.2896309	1.383921	1.3149377	2.0835257	1.0940338	1.2996107	1.3875355	1.4736297	1.2079442	1.2242899	1.2653548
Dopamine receptor D2	1.1200632	1.0649865	0.8830474	1.2408084	1.2280739	2.011194	0.8698991	0.9647826	1.1456648	1.7499954	0.9345883	0.8338556	0.8433897
Phase-1 RCT-51	1.0478392	1.1690525	1.0948209	1.2071359	1.120349	2.13162	0.98345807	0.96079828	1.1456648	1.7499954	0.9345883	0.8338556	0.8433897
Adrenomedullin	1.0207652	1.0328974	1.0187651	1.6168012	1.0223384	1.0528959	0.9838575	1.1270813	1.044353	1.4374205	0.9787213	1.1685766	1.1218851
Caveolin-3	1.0683174	1.3321592	1.2835461	1.4014825	1.2377652	2.2738853	1.093387	1.1460586	1.1382611	1.0222803	1.2004346	1.6597833	1.2628655
Phase-1 RCT-129	1.0164427	0.93517314	1.0248675	1.227284	0.97639457	1.0140382	1.0158828	1.1938733	0.9896335	1.6325878	1.0182763	1.2605087	1.1330003
Phase-1 RCT-484	1.0228387	1.1390083	1.0334035	1.1994448	1.058619	1.349721	1.0320334	0.9941484	1.0870033	1.6543369	1.0286274	1.2387211	1.176808
Sarcoplasmic reticulum calcium ATPase	1.0166633	0.8525562	1.831206	0.842403	0.840541	1.154279	1.0929324	1.1190014	1.0126497	1.6923381	1.1283001	1.1442808	0.99272168
Phase-1 RCT-78	1.0413519	1.2346552	1.0387781	1.086203	0.9134981	1.6601467	1.0304695	1.0772259	1.1868429	1.6704896	1.1456534	1.1873231	0.80700394
Phase-1 RCT-151	0.8160808	1.1961901	0.96989426	1.0717583	0.9064208	1.1398089	0.7008416	0.4752501	0.8305002	0.97969707	0.6377398	0.63374854	0.7820112
Phase-1 RCT-70	1.146295	1.1239877	1.3873967	1.2950306	1.11915	1.0836872	0.9414988	0.9689727	0.907853	1.2105971	0.9549755	1.0274822	1.0448354
Phase-1 RCT-150	1.0841142	1.3057814	1.2184954	1.283702	1.144239	1.0652048	0.8572952	0.9022937	1.1123397	2.0587174	1.2286365	1.5408771	1.193631
25-hydroxyvitamin D3-1 alpha-hydroxylase	1.0038772	0.8419807	1.0515016	1.0253406	1.2344017	1.0380243	1.0212608	1.2092937	0.9283966	0.842775	0.6989768	0.8051128	0.7838441
Phase-1 RCT-119	1.0501585	1.2837304	1.0728046	1.056167	0.9217529	1.3037683	0.778081	0.757545	0.80785183	0.7123397	0.728848	0.8937783	0.8285004
Periodic acid-Schiff-CoA thiolase 2	1.1882173	1.1301624	0.9741924	1.0745568	1.153538	1.1630555	1.3144497	0.9183071	0.8720329	0.728848	0.8937783	0.8285004	1.2686566
Superoxide dismutase Mn	0.8954965	0.9688958	1.1688619	1.059884	1.1536581	1.624548	1.056294	1.138287	1.0177294	1.094005	1.1529688	1.2408712	1.0898093
Phase-1 RCT-146	1.0228931	1.1080754	1.0986381	1.0523218	1.1570748	1.0512862	1.3554022	1.0395488	3.1014247	0.79881	1.0265142	0.88425996	1.0846486
Phase-1 RCT-115	1.2653257	1.304923	1.3738078	1.387211	1.3908968	1.7012436	1.2838937	1.2575337	1.1459105	1.4720652	0.9950063	1.3786271	1.2807656
Alpha-1 microglobulin/ikunin precursor (Amib)	0.8722734	0.9848654	0.7900896	0.7826492	0.993853	0.8752059	0.8547773	0.9684684	0.8957668	1.0410104	0.7030246	0.8244814	0.8244814
Phase-1 RCT-18	0.9834106	0.9874737	1.0874207	1.0845707	1.0472445	1.0396825	0.95479006	1.0841633	0.9597475	1.379544	1.0250069	1.1111264	1.0098022
Maspin	0.882249	1.3734531	1.2568274	1.4120778	1.2142286	2.8840592	1.0081829	1.0395547	1.1471771	1.9830567	1.2522622	1.3936874	1.0438349
Decorin	0.68876868	0.52791613	0.66716766	0.4828984	0.41244343	0.8006348	1.1281736	1.0920701	1.0927123	1.7611489	1.1973282	1.3337045	0.9813321
Retinol X receptor alpha	1.0723225	1.045855	1.2778773	1.1285619	1.2285988	1.4240197	1.0800774	1.0819731	1.0808538	1.4003441	1.0866321	1.1331484	1.1783285
Cellular nuclear acid binding protein (CIBP)	0.838805	0.730214	0.93378253	0.8886382	0.7597509	0.7506437	0.9378064	0.822463	0.9143372	0.7305837	0.8651391	0.731924	0.8755081
NADPH cytochrome P450 oxidoreductase	1.1740934	1.3400755	1.3534878	1.3004949	1.5131639	1.4659486	0.9848476	0.94054514	0.8928684	0.7741788	0.87414163	0.8008955	1.5383103
Maltase	1.0528429	1.0662094	1.2876232	1.234544	1.3043729	1.6935484	0.9170724	1.1838408	1.0828894	2.0272763	1.138815	1.1278708	0.91282403
Cystatin C	0.97058356	0.9457593	1.0332929	1.0635244	0.80580744	0.9781880	1.021286	1.1830793	1.0166546	1.0728747	1.1958874	1.4759787	1.1539908
p53COC	0.8833391	0.7946892	0.7379725	0.71600825	0.69397853	0.7305825	1.2188829	1.0016188	1.0859575	0.78162037	0.84815844	0.57618407	0.7728788
Poly(ADP-ribose) polymerase	1.0492022	0.9449236	0.8801267	1.1426284	1.3833522	1.4402821	1.018106	1.077894	1.0128747	1.6387985	1.207202	1.3222769	1.1438805
Tissue plasminogen activator	0.9461408	0.8378151	1.0214618	1.203015	1.009819	0.9489507	1.0500812	1.1880165	1.0103884	1.2958522	1.0225128	1.2818465	1.3610204
Mutidrug resistant protein-1	1.18106	0.8585732	1.0214618	1.3502694	1.2849738	1.5758476	0.9228763	0.8435572	1.1318629	0.7174415	0.8003103	0.9440136	1.0078002
Phase-1 RCT-207	1.1119056	0.8838391	0.98121756	0.94450253	0.96027297	0.9953586	1.0684741	1.1176119	0.968812	1.438187	1.1076835	1.410432	1.1584294
Phase-1 RCT-181	1.0573721	1.0492828	1.0120797	1.0582331	0.97259843	1.0138334	0.95880776	1.0610062	0.9549207	1.013314	0.94765025	1.0715985	1.1895833
Gap junction membrane channel protein beta 1 (GJB1)	1.51071	1.3749533	1.6537682	1.5841285	1.5258255	1.1398672	0.7775361	0.70709044	0.6876787	0.90739556	1.0044494	1.4027876	1.4027876
Aquaporin-3 (AQP3)	0.9138117	0.90367573	1.0486352	0.9408348	1.0217019	0.9606978	0.91644394	0.8519748	1.0742255	1.4833888	1.0458846	1.0865897	0.9883894
Myelin basic protein	0.93529674	0.86933925	0.86933925	0.93551896	1.0445333	0.9071435	0.81210667	0.8523264	0.891376	0.8145787	0.7421308	1.1256479	1.1256479
Calgranulin B3	1.0280448	1.012547	0.96163631	0.997773	1.0004324	0.9398092	0.92883873	1.0030487	0.8003825	1.1562724	1.0522703	1.23028	0.9811747

Table 30

Phase-1 RCT-158	1.0753835	1.0034877	0.94446784	0.8924415	1.1059723	0.92344004	0.8132399	0.817032	0.8678975	0.9112378	0.8658345	0.89540744	0.94774616
Protease activator 28 alpha	0.77769797	0.69415396	0.61817377	0.6790871	0.7414821	0.7588039	0.8960767	0.91882354	0.90309	1.5137752	1.1285288	1.2203652	0.9424763
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 h: yes=ncr, necrosis observed; yes-brth, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 26)													

Table 30

[illegible]

Phase-1 RCT-68	1.1426526	1.0403204	1.4125899	1.0801835	1.1241831	1.1586143	1.1170564	1.2578903	1.0669141	1.1530737	1.1218619	1.1502414
Cylin G	0.9571241	0.8702168	1.3911672	1.2651472	0.9871161	0.97428204	1.0976343	1.2960261	0.81336674	0.99108524	0.8465555	1.1034318
Hypoxanthine-Quinina phosphoribosyltransferase	1.014736	0.8731789	0.6428782	0.6377137	0.67738616	1.1722118	1.0648746	1.046508	0.8281386	0.8280484	0.72746676	1.0639428
Tissue Inhibitor of metalloproteinases-1	0.83069895	0.8429136	1.132659	1.0763476	1.2138835	0.9098842	0.900474	1.0179472	0.99474007	1.0191034	1.0158317	1.0594993
ID-1	1.0478878	1.0962387	0.94429356	0.84841734	0.8604304	0.8457294	0.8265431	1.029408	1.137376	1.1883878	0.91578755	1.1500161
Ribosomal protein S9	0.9808838	1.012105	0.7809399	0.7627326	0.81132824	0.7142924	0.8256685	0.7124907	1.3615512	0.6378786	0.5195105	0.8741344
Hemo oxygenase	1.2718935	0.8498398	1.0646038	1.5167644	1.3889909	1.1715741	1.1431412	1.1333971	0.98489577	0.8494319	0.83871143	0.8602127
Ribosomal protein S8	0.8433974	0.8371654	0.857261	0.8598927	0.94797087	1.2142032	1.0584548	0.9407015	2.2420235	1.0552346	0.85131204	1.0793735
Ribosomal protein S17	0.8393767	0.77361906	0.82986857	0.8603412	0.8603878	1.2543111	1.1520188	0.954956	1.854137	0.909784	0.91183734	1.062101
Nucleoside diphosphate kinase beta isoform	1.0243948	1.0360467	0.8371348	0.829454	1.0072038	1.3771052	1.2348609	0.969849	3.902832	1.3467683	1.1631572	1.224483
Phase-1 RCT-121	1.0730885	0.94668108	1.0686554	1.1212858	1.0358368	1.0618148	1.0285905	0.9571549	0.75840044	0.82551426	0.77828445	1.0612248
14-3-3 zeta	1.094678	1.29418	0.91413224	0.7630782	0.7902211	1.0730238	1.069077	0.901767	1.5784366	1.0031677	0.90163475	1.0102376
60S ribosomal protein L6 (alternate clone 1)	0.8621188	0.968977	0.90579045	0.8269975	1.0031577	1.1094832	1.2622033	0.9571676	1.6778366	1.0031677	0.90163475	1.0102376
Beta-actin, class I	0.8900429	1.0123988	1.0304754	0.5648316	0.8126031	1.8478983	1.8090381	1.1589731	2.384018	1.4851009	1.848582	1.3358793
Organic cation transporter 3	0.9590086	0.94901305	0.9249454	0.89784465	0.8036549	1.0725541	1.0853495	0.8679924	1.1804284	0.74318004	0.8003387	0.7049683
Beta-actin	0.88111645	0.9876659	0.788789	0.8780814	1.0552626	1.4414297	1.5962727	0.8243886	0.77930737	0.80612259	0.98119759	0.7244577
Cathepsin S	1.2089037	0.9291789	0.6778548	0.61534314	0.9007197	0.7137683	0.91483	0.9788676	1.23434658	1.0453396	1.0589442	0.89217365
Bilirubin reductase	1.1431761	1.0300043	0.776812	0.843002	1.0275319	1.123081	1.0528035	1.0407375	1.587604	0.986743	1.088685	1.013494
Phase-1 RCT-164	0.9664544	0.8448525	1.1452927	0.9646869	1.0275319	1.123081	1.0528035	1.0407375	1.587604	0.986743	1.088685	1.013494
Phase-1 RCT-283	0.8353469	0.960715	0.912498	0.8355505	0.8324133	0.826058	0.9336288	0.9445224	0.847503	1.159112	1.1118791	1.1774235
Annexin V	0.9727357	1.1157306	1.1047	0.9238167	0.95669324	0.8156522	0.9419375	1.0747107	0.7802707	0.858553	0.9520374	0.9545428
Complement factor I (CFI)	0.9720541	1.0178659	0.9221759	1.1784456	1.1671976	0.9630913	0.7604816	0.80839875	1.492125	1.3222893	1.3847498	1.5096354
Phase-1 RCT-276	1.0510288	1.043051	0.82019544	0.7708138	0.841262	0.8770374	0.8670252	1.0002698	1.2701343	1.2383235	1.0705594	1.0516531
Tyrosine aminotransferase	0.9036145	0.93150115	0.7705291	1.008038	1.016765	1.016765	0.870757	1.0002698	1.2701343	1.2383235	1.0705594	1.0516531
Glutathione peroxidase	0.7549385	0.7362378	0.8421321	1.1794338	1.3975731	0.9413074	0.9238167	0.96567316	0.976572	1.0384034	0.9710534	0.7472866
Glutathione-rich phosphoprotein	0.9040472	0.72188844	0.68835265	0.7524137	0.8082958	0.8434114	0.54526174	1.1311768	0.77922684	1.2782767	0.93720598	0.85577823
Carbonic anhydrase III, sequence 2	0.58687276	0.72002447	0.7650205	0.7487625	0.7098907	0.7487625	0.7098907	0.7487625	0.7098907	0.7487625	0.7098907	0.7487625
Phase-1 RCT-492	1.458819	0.7650205	0.7487625	0.7098907	0.7487625	0.7098907	0.7487625	0.7098907	0.7487625	0.7098907	0.7487625	0.7098907
Phase-1 RCT-88	1.3623552	1.3094303	0.9718657	0.7782234	0.8262333	0.94118845	0.80762395	0.882882	1.0226797	0.85433617	1.1758323	1.3418316
Transitional endoplasmic reticulum ATPase	0.79247206	0.8538568	0.8767657	0.8492667	0.8635022	0.8632136	0.59276977	0.8716727	0.8571782	0.88263423	0.872478	0.6889008
Phase-1 RCT-298	0.819523	0.7738382	0.7526536	0.81726085	0.7328239	1.5477135	0.73267525	0.90879124	0.88263423	0.872478	0.6889008	1.3491112
Phase-1 RCT-181	1.050287	1.0375884	1.2315236	0.87376085	0.7328239	1.5477135	0.73267525	0.90879124	0.88263423	0.872478	0.6889008	1.3491112
Glutathione S-transferase theta-1	0.8895161	0.9610947	0.835466	0.8882247	0.8288978	0.83753204	0.8507209	0.95433617	0.8812669	1.002206	0.8562559	0.7598698
Phase-1 RCT-168	1.1069481	0.9648724	0.81259656	0.87376085	0.7328239	1.5477135	0.73267525	0.90879124	0.88263423	0.872478	0.6889008	1.3491112
Phase-1 RCT-182	1.1318433	1.1033576	0.9584747	0.81451917	0.8311735	0.732291	0.6971735	0.8510568	0.8812669	1.002206	0.8562559	0.7598698
JNK1 stress activated protein kinase	0.8187343	0.81788176	0.8783578	1.0981374	1.1059881	0.8462233	0.88466058	0.95433617	0.8812669	1.002206	0.8562559	0.7598698
Phase-1 RCT-81	1.0607305	1.067143	0.8692108	0.8521127	0.8124665	0.9063141	0.9039519	0.8895008	0.909838	1.060174	1.0405328	1.4526507
Phase-1 RCT-178	1.2218244	1.0248188	0.80457646	1.0026929	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811
Apolipoprotein CIII	0.80457646	1.0026929	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811
Phase-1 RCT-48	0.80457646	1.0026929	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811	0.8996811
NADH-cytochrome b5 reductase	0.8421117	0.8758356	0.785027	0.785027	0.785027	0.785027	0.785027	0.785027	0.785027	0.785027	0.785027	0.785027
Alpha 1 - inhibitor III	0.7605144	0.9858328	0.7119219	0.7403245	0.6899517	0.5914887	0.6700304	1.0018622	0.2387538	1.0874158	0.8525692	1.2420318
Phase-1 RCT-283	0.765438	0.95746124	1.0220972	0.8918934	0.7688585	0.92851608	1.0340884	0.97978958	1.0383484	1.0874158	0.8525692	1.2420318
Paraoxonase 1	0.8475233	0.87161693	0.76704705	0.8772206	0.8011304	0.82934984	0.7771276	1.0247835	0.40971628	0.98845416	0.6563441	1.9513704
Proteinase-1	0.8176213	1.0280071	0.6609988	0.6652261	0.6838659	0.491668	0.838772	0.8354083	0.39020835	1.0423739	0.9264341	1.9513704
Apolipoprotein C1	0.7781082	0.82785164	0.68544537	0.73552791	0.6838659	0.491668	0.838772	0.8354083	0.39020835	1.0423739	0.9264341	1.9513704
Cytochrome P450 2C23	1.0112249	1.0878084	0.6587017	1.0180564	0.8883001	0.7666213	0.8876433	0.80088073	0.8647355	1.3603566	0.9164415	1.7403597
Phase-1 RCT-227	0.84693825	1.0870065	1.0657631	0.87655157	0.8859588	0.9537432	0.85025247	0.8337705	0.49061083	0.9264341	1.9513704	1.7403597
Hepatic lipase	0.87237525	0.80073494	0.69991083	0.63890284	0.49361393	0.80088073	0.8647355	1.3603566	0.9164415	1.7403597	0.8598884	1.0109459
Phase-1 RCT-164	1.0344443	0.9782844	0.7796118	0.81346035	0.7117347	0.81528623	0.85628866	1.1332088	0.8474892	0.8915803	0.7455688	0.7528336
Mitochondrial protein-2	1.1534436	1.0897088	1.2237284	0.94723824	0.197006	0.984089	1.1766388	1.0081525	0.294089	1.1766388	1.0418181	1.354428
Insulin-like growth factor I, exon 6	0.8808231	1.10884	0.7528835	0.742124	0.8902304	0.8416644	1.008905	0.2508193	0.5457941	1.0188665	1.1766388	1.354428
N-hydroxy-2-acetylaminofluorene sulfoxidase (STC1)	0.8485147	0.8589159	0.7806436	0.7683087	0.6157163	1.146024	0.87831515	1.0334685	0.5293017	0.8269302	0.9282182	0.8349722
Dynamin-1 (D100)	0.8118657	1.054597	1.1728771	0.9003319	0.8220473	0.9907862	0.8488889	1.0051444	0.82930293	1.155728	1.074137	0.89844387
DNA polymerase beta	0.9400163	0.89140004	0.8672187	0.8133528	0.74143658	0.9775689	0.97160766	0.9386818	0.9143462	0.8521658	0.8561961	1.0355189

Phase-1 RCT-173	1.3948131	1.3580879	1.1436816	1.0490816	1.2198315	1.0836018	1.2938107	0.7632562	0.7520755	0.7328955	0.5982593
Ubiquitin conjugating enzyme (RAD 6 homologue)	1.0751971	1.0558813	0.6801038	0.7025465	1.0887811	1.0380757	0.8869945	0.7028688	0.733477	0.7409223	0.80558134
Ribosomal protein L13A	0.9380882	0.8876405	0.9833626	1.0811931	0.9844714	1.054638	1.1947874	0.9932868	0.8379242	0.87535925	1.170484
Phase-1 RCT-144	0.9052526	0.9560470	1.0298191	0.9192519	0.9789157	0.98068047	1.039595	0.9292108	1.0610635	1.0761682	0.97048074
c-Hras	1.0973188	1.1552731	0.9266419	1.0693889	0.92205614	0.8757185	0.8364619	0.909077	1.3160394	1.0278592	1.0379788
Vesicular monoamine transporter (VMAT)	1.0090308	0.9574731	1.8767375	1.3864145	1.2946029	1.1026252	1.1417818	1.0297025	1.0615786	1.1691478	0.7835323
Phase-1 RCT-270	1.0271013	0.9222050	1.0083972	1.4038477	1.5345783	1.4047573	1.1588888	0.8760302	0.8712206	0.8778848	0.67150118
Phase-1 RCT-230	1.071141	0.9634177	2.3302011	1.0304871	1.499864	1.6897038	1.406522	0.81970334	0.8528888	0.81970334	0.87685517
Phase-1 RCT-74	1.1277244	1.0740746	1.9534711	1.4558219	1.50504919	1.442142	1.3909801	0.8760475	0.82827	0.8947604	0.98303618
Phase-1 RCT-40	1.08478	0.974748	1.9471202	1.4300522	1.4808871	1.511737	1.3623281	0.891307	0.8581605	1.131637	0.9240075
Phase-1 RCT-158	1.032828	1.0836263	1.4415401	1.216187	1.2383003	1.0456781	1.0650715	1.1341356	0.8751487	0.8907888	0.7737023
Deoxydiphenyl kinase	1.0429986	0.97879416	1.8944327	1.6940372	1.5109315	1.1803825	1.0355541	0.9444816	0.85558244	1.0681787	0.79765669
Inositol polyphosphate multikinase (IpMK)	1.044127	0.9915931	2.069257	1.3677446	1.5011285	1.5183281	1.1580673	0.9246602	0.9034081	0.8561917	0.9838793
Neuronal cell adhesion molecule (NCAM)	1.0800363	1.020891	2.2825913	1.8684582	1.7293231	1.6831816	1.4841412	1.4069884	0.8251293	1.1416728	0.9217185
Hepatic growth factor receptor	1.0413454	1.178322	1.818093	1.4125973	1.4848931	1.1558852	1.117414	0.8702606	0.8702606	1.0970469	1.1520454
Empty	1.281892	0.9929711	3.4511805	1.8409791	2.0545459	2.0878188	1.8427459	0.7863368	0.8574818	0.7863368	0.8574818
Dopamine receptor D2	1.0123607	1.0960004	0.9132398	0.9141097	0.9361956	0.9316262	1.0206547	0.8693006	0.9492781	1.05485	0.97034438
Phase-1 RCT-51	0.9934413	0.97460375	1.86810375	1.4493841	1.2881668	1.2314371	1.169828	0.9292781	1.009139	0.9508927	1.1653343
Four repeat ion channel	1.0810088	1.036244	1.4717604	1.220332	1.2588402	1.1683635	1.041131	0.830252	0.8212488	1.0367212	0.8672857
Adrenomedullin	1.1739018	0.9922951	3.8080697	2.07841	2.28145	3.1400242	1.9227282	1.8066113	0.8965128	0.8713238	1.1718334
Caveolin-3	1.087354	1.0495561	1.4179622	1.3505444	1.3305944	1.1812453	1.1947563	0.9468217	0.85015034	1.0586118	0.96422588
Phase-1 RCT-129	1.0552771	1.0126002	1.522045	1.3251851	1.380872	1.2504565	1.2397163	1.1603439	0.468123	0.8915595	1.0619193
Phase-1 RCT-44	0.9316334	0.9466144	1.4285515	1.1623213	1.3257244	1.0659639	1.0712032	1.1605563	0.9249434	1.0536588	0.8482387
Sarcolemmal reticulum calcium ATPase	0.9287205	0.9394644	1.5530528	1.447074	1.2084448	1.1597361	1.0898093	0.81364155	0.8991468	0.93761265	0.75563097
Phase-1 RCT-78	0.9583775	0.96723425	1.9148917	1.3318074	1.2817572	1.5711489	1.3521655	1.2015743	0.8958085	0.8655778	0.9584422
Phase-1 RCT-252	0.89350726	0.9370957	0.8946476	1.0511808	0.8961087	0.9893352	0.9894967	1.1619277	1.2321302	0.9184667	1.117763
Phase-1 RCT-151	1.000659	1.1639760	0.81456425	0.8068816	0.8744964	0.89731034	1.0427309	0.955547	1.155621	1.1952672	1.0898604
Phase-1 RCT-70	0.9533669	0.9549851	1.7051041	1.5169016	1.4461108	0.6905016	0.6905016	1.4653409	0.653594	1.042415	1.135402
Phase-1 RCT-150	1.3224798	1.2185427	1.0829023	1.1600994	1.130755	1.0926794	0.9999894	1.0805708	1.207178	1.3643688	1.2050817
25-hydroxyvitamin D3-1 alpha-hydroxylase	1.017624	0.97445658	1.2501403	1.0654873	1.0450558	0.9517821	1.0000805	0.9763292	0.9246135	0.9608568	0.689167
Phase-1 RCT-118	0.96781725	0.95939624	1.263944	1.3389668	1.0026245	1.1274927	1.1824768	0.999261	0.8021513	1.1286465	0.9340604
Peroxidomal 3-oxoacyl-CoA thiolase 2	1.386483	1.484731	0.76818803	1.0924328	0.9250947	0.9674468	1.0647299	0.911818	1.823781	1.0847197	0.964678
Phase-1 RCT-146	0.99528075	0.77089494	1.5817168	1.177492	1.174253	1.0324131	1.100679	1.1208054	0.8833001	1.0597003	0.9055082
Superoxide dismutase Mn	0.9568688	1.0715953	0.8900878	0.8272859	0.8460092	0.9387574	1.0553946	0.9339743	1.011633	1.0824447	0.9180772
Phase-1 RCT-115	1.1905501	1.1912801	1.4820652	1.321444	1.419874	1.3177303	1.2640803	1.243185	0.97225744	0.8009437	1.0760426
Alpha-1 microglobulin precursor (Amp)	1.0281191	1.0477933	0.8700303	0.7475735	0.71016726	0.7600831	0.82361805	0.9184158	0.9051377	1.1786942	0.92607456
Phase-1 RCT-18	0.9561588	0.9816895	1.3701	1.1534785	1.1386138	1.0951895	1.0799139	1.1584075	1.0528848	1.0933413	1.0666005
Muspin	1.1253169	0.9218874	2.1018015	1.4463683	1.7281572	1.5598475	1.2378262	1.3075286	0.8454081	0.89558333	1.144008
Decorin	1.0820525	0.9507824	2.0384338	1.6374074	1.813244	1.3848598	1.1652914	1.2287749	1.4915003	0.758543	0.97854625
Retinoid X receptor alpha	1.0123083	0.89416265	1.1258051	1.0881371	1.1250315	0.8754148	0.89458356	0.9743263	1.0436534	1.028668	1.0784559
Cellular nucleic acid binding protein (CNPB)	0.9197855	0.8888959	0.8282339	0.7748042	0.7517588	0.8608944	0.8388087	0.97468043	0.6252138	0.7248493	0.55604374
NADPH cytochrome P450 oxidoreductase	1.3123587	1.1763486	1.4619287	1.263225	1.5450389	1.23513	1.424303	1.1922088	1.6840928	1.4437758	1.789524
Malic enzyme	1.2387933	1.1023852	1.0772167	0.9107265	1.0776538	1.0643975	1.3021173	1.0244988	0.892538	0.8048199	1.0521585
Caspase 1	1.0918163	0.96577434	1.0914099	0.9150075	0.9264865	0.9818975	1.1003833	1.010829	0.87099286	0.86193615	0.8891925
Cystatin C	0.985853	0.8330876	0.8728728	0.9216378	0.9823004	0.8328809	0.8278895	1.1313948	0.722297	0.82898255	0.5768945
p53CDC	1.0202894	0.9276312	1.1802806	1.0138327	0.91078115	0.71461767	0.87495315	1.1316559	0.908254	0.8605592	1.0412344
Pol(ADP-ribose) polymerase	1.3038892	1.3005532	0.9883694	0.92057467	0.8974724	0.9585884	1.0347806	0.917872	1.2708858	0.984122	1.0457635
Tissue plasminogen activator	0.99089175	1.0728971	1.2096735	0.91168174	0.9832287	1.02528	1.0581055	0.9176992	1.0479386	1.072871	1.069055
Multidrug resistant protein-1	1.1761872	1.0560614	0.8973927	1.0323625	0.8017593	0.9550255	0.95971406	1.1415284	0.98101664	1.1428804	0.98101664
Phase-1 RCT-207	1.0128689	1.0588992	1.3571469	1.1681944	1.0074805	1.2802753	1.27478931	1.1382997	1.1427638	0.67062575	0.7480131
Phase-1 RCT-181	0.97644756	1.0191449	1.1692859	1.3275175	1.0375993	1.1405683	1.0302811	0.939366	1.0437332	1.1510322	0.9674006
Gap junction membrane channel protein beta 1 (Gj1b)	0.86853256	1.1916595	2.0503433	1.74739	1.909474	1.565097	2.0320068	1.5717654	1.3949261	2.376566	3.0808868
Aquaporin-3 (AQP3)	0.8642112	1.2719256	1.5845499	1.1273608	1.1014991	1.0517709	1.0150708	0.91642296	1.1236848	0.9545712	1.2479872
Myelin basic protein	1.0236523	1.0673712	0.80539197	0.9728182	1.3199046	1.1031755	1.1292752	1.2169182	1.2565731	0.7559527	1.387705
Calgranulin B3	1.0646389	1.1104083	1.1365695	1.037818	0.97621965	1.140393	1.1149786	1.0525291	1.5025436	0.944785	1.0805147

Table 30

Phase-1 RCT-156	0.8565282	1.0615103	0.82766527	0.83342936	0.86047447	0.9822069	1.0062172	1.0507131	1.2394054	1.096613	0.9209001	1.6847855	0.53694948
Proteasoma activator 28 alpha	0.96969527	0.96598816	0.7495771	0.7210821	0.8639931	0.69996375	0.74735254	0.90401506	1.1432353	1.1993951	1.0369153	0.7270866	1.2727704
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 h: yes-necr, necrosis observed; yes-leth, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 29)													

Table 30. Expression Data for 72 Hour Timepoint

Compound-Dose (2)	Animal Number (3)	Liver Toxicity Inflammation Classification (4)	Gene Name (5)	Expression Data for 72 Hour Timepoint												BUS 14	BUS 14	BUS 14	BUS 14	BUS 14
				no	1828	BAP 30	BAP 30	BAP 30	BAP 30	BAP 30	BAP 30	BAP 30	BAP 30	BAP 30	BAP 30	BEN 250	BEN 250	BEN 250	BEN 250	BEN 250
Phase-1 RCT-107																				
Betaïne homocysteine methyltransferase (BHMT)																				
Proliferating cell nuclear antigen gene																				
Cytochrome P450 2D18																				
Cytochrome P450 2C11																				
Phase-1 RCT-280																				
Phase-1 RCT-280																				
Beta-actin, sequence 2																				
Phase-1 RCT-282																				
Pyruvate kinase, muscle																				
Osteocalcin																				
Calgranulin B1																				
Apolipoprotein AII																				
Connexin-32																				
Phase-1 RCT-109																				
Glycine methyltransferase																				
L-gulono-gamma-lactone oxidase																				
Phase-1 RCT-256																				
Carbonic anhydrase III																				
Phase-1 RCT-78																				
60S ribosomal protein L9																				
Calpactin heavy chain																				
Collagen type II																				
Phase-1 RCT-179																				
Voltage-dependent anion channel 2 (Vdac2)																				
Phase-1 RCT-192																				
Adenine nucleotide translocator 1																				
Thymosin beta-10																				
High affinity IgE receptor gamma chain (FcER1gamma)																				
Gamma-actin, cytoplasmic																				
Uncoupling protein 2																				
Phase-1 RCT-34																				
Phase-1 RCT-31																				
Cyclin D1																				
IgE binding protein																				
Zinc finger protein																				
Phase-1 RCT-138																				
Alpha-tubulin																				
Calpain 2																				
Phase-1 RCT-12																				
Calnexin B																				
Phase-1 RCT-24																				
Melanoma-associated antigen ME401																				

Table 30

Phase-1 RCT-68	1.4213893	1.1840075	1.1381367	1.0322258	1.1356555	0.971417039	0.9233909	0.9480969	0.9566156	0.9113449	0.9306456	0.8852886	1.0042715
Cyclin G	2.0134678	1.0362350	0.9533309	1.0878321	1.0337418	1.0839637	0.8561449	0.9569616	0.9092838	0.789062	0.9251508	0.8315172	0.9385198
Hypoxanthine-guanine phosphoribosyltransferase	1.0326027	1.0203960	0.9078695	1.1034418	0.9767149	0.6862084	1.0672741	0.8657088	0.826282	0.7664023	1.2945741	0.9518878	1.0991178
Trans inhibitor of metalloproteinases-1													
ID-1	1.0918638	0.890623	1.322962	1.1419069	1.5197718	1.4303877	1.0752818	0.8002687	0.8339854	0.8224678	0.8575008	0.8426696	0.95194757
Ribosomal protein S9	1.7008416	0.9101835	0.896557	0.9931385	0.8667182	1.1593407	0.8627584	0.7844077	0.7958265	0.7658466	1.1762689	1.4049158	1.2611816
Forme oxygénée	1.3967657	1.3404019	1.1576551	1.4237312	0.8234019	0.72817004	0.873701	0.8928449	1.1997304	0.9383507	1.3543243	1.0728333	0.93423063
Ribosomal protein S8	1.4730558	0.8515386	0.9976816	1.0298542	0.9250947	0.8626163	0.8731903	0.8652838	0.8652838	0.86147026	0.8397468	0.9217719	1.1511713
Ribosomal protein S17	2.7213978	1.344335	1.3501385	1.369075	1.287893	0.8619207	1.4800813	1.1272455	1.2657554	1.2709147	1.2131803	1.0241413	1.0224441
Nucleoside diphosphate kinase beta isoform	3.3242455	1.3764111	1.322287	1.3764111	1.2846841	0.8952598	1.2724338	1.1794089	1.236498	1.2928337	1.027694	0.95765704	0.98467207
Phase-1 RCT-121	0.7360036	0.6282476	0.83004626	0.808828	0.5520106	1.0712322	0.7159701	0.9160819	1.030918	0.8308457	1.4394496	1.0725989	1.0966827
14-3-3 zeta	1.1592737	0.84689374	0.9963574	0.93464506	0.8658795	1.1677379	0.8655867	1.0003054	0.8621387	0.814206	0.8152789	1.3925308	1.2659828
60S ribosomal protein L6 (allernate clone 1)	2.2601783	1.2995632	1.2323554	1.2353184	1.191235	0.8707339	1.3836129	1.0856886	1.0876548	1.1374098	1.2261413	1.1216782	1.0852697
Unigene cluster transporter 3	2.7758693	1.4542472	1.310460	1.032453	1.2312661	0.97416276	1.1584315	0.9083484	0.9228453	0.78874707	1.6409166	1.6389569	1.0265902
Beta-actin	1.546774	1.0102473	1.1719605	1.083455	0.9871021	0.779284	1.3326048	0.9688837	1.0155559	1.0046504	0.9150084	1.042077	0.9462636
Cathapsin S	0.7794975	0.80813595	0.8541617	1.2246727	0.8667574	1.0856657	0.9177255	1.0309985	0.5052073	0.74066128	1.0953712	1.1594763	0.9955575
Biliverdin reductase	1.021293	1.0877686	1.6541282	1.1219262	1.1847395	1.0748988	0.92384917	1.0375466	1.1280578	1.035276	1.0114298	1.0867899	1.4757975
Phase-1 RCT-154	1.2523927	1.0420711	1.1149922	1.1027629	1.0093298	1.1576808	1.0073342	0.8876233	0.88887405	0.797082	1.094428	0.8688976	1.0343841
Phase-1 RCT-293	2.0430875	0.7850464	1.0187016	0.8785542	0.8251086	1.0520064	1.0029156	0.9945966	0.985987	0.9396216	1.0523173	0.9251832	1.0504011
Annexin V	0.9224728	1.2009556	1.3789914	1.197904	1.7621447	1.1750623	1.4691037	0.835771	1.0210873	0.9436139	0.7828382	0.7685785	0.89782017
Complement factor I (CFI)	0.94865385	1.0325893	1.1028941	1.0554248	0.8028006	1.0185215	1.0519643	0.921006	1.18881	1.0234855	0.8322215	0.8892486	0.88428813
Phase-1 RCT-276	1.4178868	1.5489458	1.5052885	1.3018781	1.5377402	1.0918838	1.219861	1.0597111	1.1995334	1.2586263	1.2168313	1.2141863	1.1054612
Tyrosine aminotransferase	1.0776816	1	1.0936352	0.9602694	1.1090578	0.91078925	1.2333301	1.2222514	1.0973458	1.0620038	0.7679239	0.83113989	0.8891276
Glutathione peroxidase	1.0966288	1.7488841	1.057845	1.2865059	1.162676	0.75758195	1.358628	1.3195057	1.1973816	1.2851095	0.6772327	0.8997644	0.74028084
0.7117954	1.1835043	1.184555	1.2743407	0.8720073	1.3321299	0.9533326	1.3506052	1.0877469	1.7637426	1.5364897	0.8812103		
Cardiolipin-rich glycoprotein	0.25650585	0.83887166	1.5603467	0.89516026	1.3121176	1.0388213	1.7138325	1.6449374	1.567818	1.374128	0.8198327	0.7138078	0.8702881
Histidine aminidase III, sequence 2	0.20249762	0.78748008	1.0509789	0.8217403	1.2833098	0.8618558	1.6203104	1.4107603	1.3251274	1.2216482	0.8463226	0.733132	0.9361158
Phase-1 RCT-92	0.4402847	0.81449016	1.1277757	0.84355786	0.8607284	1.120679	1.0239488	0.9107603	0.9246513	1.2216482	0.8463226	0.733132	0.9361158
Transitional endoplasmic reticulum ATPase	0.94859195	0.8820166	0.9974638	0.9368042	0.8902402	0.8657363	0.81239465	0.9780604	0.9246513	1.2216482	0.8463226	0.733132	0.9361158
Phase-1 RCT-88	0.4600316	0.72760195	1.055184	0.7270177	1.0883514	1.0953187	1.0634085	1.3075085	1.284019	1.146183	0.8494786	0.866928	0.7696626
Phase-1 RCT-266	0.4428437	1.489189	1.2197853	1.1467603	0.77019423	1.0924244	1.4682772	0.7625347	1.338431	1.1765046	1.6284748	1.4825274	1.1728101
Phase-1 RCT-161	0.31105746	0.64872736	0.79216844	0.711182	0.859288	1.1143287	0.90011454	1.0272293	1.001904	0.93762285	1.2733613	1.058046	0.78728155
Glutathione S-transferase theta-1	1.1615282	1.837088	0.9991132	1.1300261	0.9234102	0.78955155	1.0905598	1.1124417	1.0428691	0.9849659	1.2848823	1.388816	1.0915088
Phase-1 RCT-168	1.021565	0.9052505	0.98408797	0.94162995	0.8422393	0.96300394	1.0250148	1.0183924	1.0483315	1.1681743	0.93857645	1.150498	1.2885447
JNK1 stress activated protein kinase	0.84743814	1.0085448	1.2002113	1.0080817	0.94127883	0.88054206	1.0633597	1.2515844	1.498046	0.84576013	1.1518854	1.1740179	1.0219277
Phase-1 RCT-81	0.9721689	1.0302714	1.0523935	1.018509	0.8903923	1.0710348	0.91902745	1.6244599	1.0718865	0.9597351	0.76986945	0.83141298	0.9655707
Phase-1 RCT-178	0.57045835	0.48226844	0.6668814	0.47532353	0.80667406	1.0495881	1.068951	1.0023477	1.0023655	1.0685892	1.2883542	1.2418574	1.5663332
Apolipoprotein CIII	0.39300805	0.8705465	0.6581371	1.0271734	0.92257977	0.61801328	1.1737684	1.2714111	1.0553612	1.0075483	0.98120373	0.8762076	0.75623244
Phase-1 RCT-96	0.88302854	0.8925944	0.7555147	0.76286167	0.9225458	0.86678995	0.84767558	0.9834315	1.0553612	1.0075483	0.7742356	0.7825734	0.90033555
NADH-oxochromone b5 reductase	0.7627323	1.133877	0.9866618	1.2001007	0.98858424	0.82583016	1.3494244	1.0112807	1.0223321	1.116832	1.0198509	0.7871683	1.0968686
Alpha 1 - inhibitor III	0.20726845	0.7523111	0.77810293	1.108013	1.3074633	0.75117292	1.2589687	1.3403768	1.3732904	1.747658	0.9676837	0.77704555	0.71700227
Phase-1 RCT-233	0.48331617	0.7039739	0.74889005	0.6578007	0.870637	1.4489576	0.94212556	1.2583588	1.0560149	1.1107209	1.018387	0.71948784	0.8730228
Proteinase 1	0.30282995	1.9553347	1.7834949	1.8180097	0.8394637	0.85586476	1.07793692	1.0476077	1.2649457	1.4494388	1.3704696	1.3983389	0.986643
Apolipoprotein C1	0.55781784	0.8559626	1.1873101	0.839979	1.1854701	0.67171097	1.780457	1.4877851	1.2582401	0.70398935	1.0041004	0.8870569	0.90359708
Cytodrome P450 2C23	0.3716227	1.087542	1.288505	1.2465564	1.121465	1.3544774	0.77708054	1.1829492	1.3671846	1.6418871	1.0328602	0.8008647	0.7378823
Hepatic lipase	0.389174	1.167534	1.043403	1.3853403	1.3215866	0.90707824	0.92723155	1.0942745	1.2195143	1.2813577	1.4526384	0.9391118	0.684824
Phase-1 RCT-227	0.35546064	0.8621653	0.698368	0.6878715	0.8339197	1.30097	0.79455497	1.3503981	1.1444089	1.056801	1.0955145	0.9453292	0.87182895
Phase-1 RCT-184	0.567269	1.0568389	1.1784492	1.3934776	0.810957	0.9781462	0.91665496	1.0867054	1.1884155	1.0400144	0.82848947	0.726209	0.99182538
Multidrug resistant protein-2	1.8041686	1.5343723	1.5238523	1.197521	0.99749327	1.0454883	0.8855806	0.8005524	0.87154776	0.8252476	1.4572119	1.3278049	0.82510456
Insulin-like growth factor I, exon 6	0.48494872	1.0761082	0.943922	1.001006	0.94774157	1.0110703	0.955174	1.349805	0.8363254	1.2708176	1.349805	1.195656	1.2505033
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	0.41782068	0.8903882	1.2770107	0.9767152	0.9928929	1.0045737	1.0563786	1.2624688	0.85133826	1.4688425	1.0394673	1.1583676	1.0172859
Dynamin-1 (D100)	0.61613804	0.83580816	0.8813726	0.8808237	1.120753	0.87396473	1.2150725	1.0570892	1.0570892	0.72314274	0.6816621	0.8203214	
DNA polymerase beta	1.2539064	1.2544768	1.3694757	1.2834631	1.1453755	0.8603166	0.8893442	1.0982883	1.1897805	1.1529286	0.9195054	1.0830169	0.8942734

Table 30

Phase-1 RCT-173	0.74361205	0.652747	1.04109	0.185905	1.0346228	0.780304	1.0894074	0.99531315	0.890522	0.833365	0.84539616	0.91616386
Ubiquitin conjugating enzyme (RAD 6 homologue)	1.4088408	1.0476432	1.133723	1.1227317	0.87671619	0.8622445	0.9539966	1.2037276	0.9641311	1.076883	1.076883	0.965935
Ribosomal protein L13A	1.4403568	1.2991463	1.173313	1.316627	1.1871896	0.6939687	1.3814647	0.902633164	0.106859	0.95221555	0.9304777	0.9932083
Phase-1 RCT-144	1.0970395	0.911614	0.908578	0.7800953	0.86816405	1.143697	0.971316724	0.899282	0.87605186	0.7842173	0.855005	0.8572915
CH-Res	1.1835368	1.0877024	1.1160933	1.007726	1.0531057	0.8934443	1.056163	0.8647132	1.0614903	1.2809814	1.0683278	1.0501696
Vesicular monoamine transporter (VMAT)	0.92466944	1.0120884	1.0496145	0.8993825	1.1283938	1.0313826	1.026417	0.8289575	0.94112176	0.87699903	0.70126001	0.7380176
Phase-1 RCT-230	0.93018555	0.8031311	0.91949517	0.85667074	1.2416221	0.9857707	1.240216	0.7830804	1.0021838	1.0033602	0.7940081	0.8667654
Phase-1 RCT-74	0.90837372	0.762079	1.0144832	0.7530385	1.1829228	1.0396408	1.16549	0.84526145	0.9075408	0.83291814	0.717357	0.7309369
Phase-1 RCT-80	0.95536965	0.65935404	0.7200877	0.65954137	0.912722	0.9842184	0.87813216	0.7931714	0.83713806	0.9407225	0.8694846	0.7522337
Phase-1 RCT-158	0.9428203	0.8795625	0.8131585	0.7214188	1.0571993	0.93586476	1.0941826	0.7915234	0.82652706	0.7650992	0.6513468	0.88851577
Deoxydiphosphate kinase	0.9453022	0.6961604	0.80007534	0.6086588	0.8560995	1.1007285	0.9529937	0.91621438	0.8769389	0.63948524	0.81468	0.774316
Inositol polyphosphate multikinase (ipmk) p	0.896944	0.82498735	0.9041004	0.90774226	0.8261885	1.0264178	0.9250387	0.82650197	1.040525	1.0489163	0.9216213	0.74915636
Neuronal cell adhesion molecule (NCAM)	0.8571042	0.6325483	0.7240926	0.6663986	1.1549801	0.9426617	1.0401055	0.840439	0.8314221	0.8637989	0.7440004	0.7917618
Hepatocyte growth factor receptor	1.047597	0.6513066	0.78544586	0.70199245	1.1421094	0.9944266	1.0465828	0.7025168	0.754193	0.701826	0.647206	0.693538
Engr-1	0.903664	1.088473	0.915503	1.1411107	1.0893824	1.1562079	1.0145915	0.78697818	0.83396795	0.71987566	1.1221196	0.98740584
Opiate receptor D2	0.993948	0.7185109	0.780275	0.58163076	1.0090537	1.0076493	0.83811656	0.702547	0.7681395	0.647984	0.5903654	0.8463475
Phase-1 RCT-51	1.0105915	1.3620311	1.2021655	1.2681729	1.0146573	1.0358747	0.8872234	1.131472	1.1851385	1.2039163	0.9518165	1.105762
Four repeat ion channel	0.95366085	0.77710222	0.7254397	0.720865	1.0078025	1.0163481	1.0603343	0.8432031	1.0111922	0.960858	0.7117284	0.7759855
Adrenomedullin	0.97203326	0.72510934	0.7322732	0.6574378	0.8589208	0.8440333	0.8471656	0.7884189	0.88766184	0.8607301	0.8080307	0.86143744
Caveolin-3	0.7294178	0.54438055	0.64332	0.56156665	1.0210574	1.061255	0.9717027	0.6451597	0.85215074	0.63748653	0.5901866	0.9429338
Phase-1 RCT-129	0.9595617	0.5895771	0.6803382	0.6387076	0.858731	1.0181607	0.8587063	0.76955105	0.820748	0.9053829	0.7511948	0.9543475
Phase-1 RCT-44	1.177978	0.930396	0.72615266	0.9407689	0.8727894	1.0700165	0.9450872	0.83414838	0.86422133	0.85786765	0.74846363	0.90307355
Sarcoplasmic reticulum calcium ATPase	0.8340753	0.74446994	0.79514843	0.7216883	0.8685024	1.1598	0.8997258	0.8745595	0.9665891	0.93286854	0.82454664	0.86138335
Phase-1 RCT-78	0.9928782	0.9668143	1.0286862	0.837781	1.174048	1.0175108	1.0057163	1.0460863	1.0414807	1.013386	0.8498598	0.92313004
Phase-1 RCT-151	1.0290724	0.9269892	1.0342219	0.753966	1.124841	0.9644978	1.154573	0.92053026	0.8717273	0.860781	0.8773144	0.918765
Phase-1 RCT-151	0.85336266	1.2371502	0.92337865	1.2492861	0.9507404	0.8265721	1.0061048	1.1456804	1.2692216	1.249685	1.281827	1.0179829
Phase-1 RCT-70	1.5939806	1.1718655	1.0316248	1.1207851	1.3810433	0.850374	1.2185192	0.9717727	0.8604445	1.207171	1.3466024	1.0400337
Phase-1 RCT-150	0.89141705	0.82461598	0.72871684	0.74754985	1.0995286	0.9802774	0.9379276	0.9698268	0.9228759	0.99629817	0.8869417	0.97851495
25-hydroxyvitamin D3-1 alpha-hydroxylase	0.8521709	1.0968089	1.1251705	1.1334056	1.1827992	0.7259474	1.055553	0.9018142	0.8977132	1.3713759	1.2423475	1.3345484
Phase-1 RCT-19	0.73577005	0.73660386	0.7973869	0.70594025	0.8593363	1.176922	0.83318615	0.8367673	0.8632696	0.78913563	0.7108257	0.68333715
Peroxisomal 3-ketoad-CoA thiolase 2	0.7818062	0.9759615	0.84787834	0.90767248	1.0189375	1.0002472	0.9433107	1.1978037	1.313411	1.2899363	0.7430061	0.75688103
Phase-1 RCT-146	2.1030467	1.488988	1.0036978	1.399167	1.1735317	0.8761957	1.5490313	1.3701257	1.0622776	1.1780803	1.5928882	1.2977588
Superoxide dismutase Mn	0.80163064	0.8189056	0.82098496	0.7638132	0.8982046	1.127001	0.7394017	1.110366	0.9454035	0.91420263	0.70544668	0.6856333
Phase-1 RCT-115	0.8773903	1.3890352	1.4774569	1.4629307	0.8962307	1.27001	0.7394017	1.110366	1.0722633	0.97865224	1.3923302	1.1504905
Alpha-1 microglobulin precursor (Ambo)	0.9987348	0.7316482	0.788273	0.70408824	1.263469	0.9527576	0.9282144	0.81565019	0.789289	0.7107799	0.82754019	0.83653379
Phase-1 RCT-18	0.8410222	1.2573711	1.2025913	1.1508174	1.1914471	0.6380022	1.5434134	1.1323805	1.0716091	1.1059785	1.3424433	1.1163339
Maspin	1.1370976	0.77052738	0.83752656	0.77078648	0.8622078	0.9825864	0.86370385	0.8668467	0.90513253	0.92147434	0.87904817	0.82332006
Decorin	0.8689377	0.81314584	1.0005991	0.83575284	1.1025361	1.1272302	1.0181675	0.8314049	0.9902335	0.900731	0.6132571	0.7741339
Reelin X receptor alpha	0.85130396	0.84680475	1.0226591	0.3164752	1.026155	1.0044997	0.9075509	0.8645729	0.81466025	0.86887836	0.8169273	0.79278773
Cellular nucleic acid binding protein (CUBP)	1.1945384	0.69693868	0.71527195	0.8790144	0.95126	1.821458	0.9009827	0.852688	0.9645064	0.81818394	1.0832388	1.1713302
NADPH cytochrome P450 oxidoreductase	0.6838088	1.109388	1.2139599	1.3303168	0.931855	1.083055	0.9205093	1.1504768	1.100257	1.7243558	1.1613185	0.92953638
Malic enzyme	2.049034	1.097907	0.8170248	0.93377835	1.1353322	1.1689893	1.08528	0.92415816	0.87688935	0.7381521	0.89615387	1.2136478
Caspase 1	0.49688146	1.4232943	0.85324105	1.0771904	0.8846154	1.0428152	0.8593249	1.024461	1.0577185	1.081103	0.6832709	0.5992054
Cystatin C	0.909208	0.865908	0.8648065	0.8409194	0.8957817	1.199732	0.85587454	0.87041855	0.8453964	0.9206848	0.7984515	0.7948143
p53CDC	0.8303401	1.0805918	1.4650395	1.222467	1.2014495	0.7604463	1.1038046	0.87041855	0.8453964	0.9206848	0.7984515	0.7948143
Poly(ADP-ribose) polymerase	1.0718423	1.459468	1.0146887	0.8007179	0.84815394	1.189832	0.8275939	0.6878033	0.9709503	0.8089004	0.9142564	1.0827082
Tissue plasminogen activator	1.817282	1.028810	0.8772701	1.706366	0.8329671	1.1241957	0.85716924	0.85768804	0.8406745	0.7885718	1.1377742	0.9295122
Mitochondrial protein-1	0.967856	0.9473354	0.95541835	0.9247072	0.96808476	0.9878285	0.91271719	1.0317382	1.0074824	1.0572953	1.0224247	0.8748591
Phase-1 RCT-207	1.7496847	1.8613973	1.5027198	1.4022202	0.99778104	1.1037294	1.0002008	0.85981214	0.85925	0.8147882	1.2675266	1.2260693
Phase-1 RCT-181	1.291643	0.7774006	0.9398098	0.9347801	0.8598423	1.1037924	0.7383014	0.808013	0.78479235	0.6879979	1.2464557	0.91280767
Gap junction membrane channel protein beta 1 (GJB1)	0.7370218	0.8730193	0.920416	0.91643885	0.870792	1.0334269	1.0769078	0.84242505	1.0200114	0.9170082	0.9361559	0.95124114
Aquaporin-3 (AQP3)	1.0149734	0.87900166	0.4543308	0.73368156	1.4557512	1.0304637	1.11626	1.020568	0.8151162	1.0013268	1.2539138	1.4014801
Invein basic protein	0.3330002	0.7833524	0.7020149	0.7018076	0.91305834	1.0244387	0.89319748	0.9611345	0.8928922	0.7905171	0.8615832	0.83881656
Calgranulin B3	1.1207024	0.65523975	0.8779662	0.9134491	1.0272698	0.8077257	1.0813393	0.88012895	0.8107155	0.8507183	1.1371757	1.3908151
	1.3587458	0.93844277	0.95086724	0.6556114	1.0037698	0.89689267	0.92878064	1.0514547	0.8845939	0.90054274	0.9568179	1.0760739

Table 30

Phase-I RCT-156	1.3056443	1.0005314	0.7093933	0.672004	1.0477419	0.842767	1.0537775	1.1551683	0.9625714	1.0862372	1.012525	1.1063913	1.1800071
Protease activator 28 alpha	1.0633702	1.4114581	1.0625012	1.5465195	1.1943743	0.8768789	1.4350364	0.9687626	1.0516527	1.12212	1.2527546	1.3931342	1.198631
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 h: yes=neer, necrosis observed; yes=both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive genes (as in Table 23 and as included in Table 26)													

Table 30

Table 30

Table 30. Expression Data for 72 Hour Timepoint												
Compound-Dose (5)	CAD 1	CAD 2	CAD 2	CAD 2	CAD 2	CAD 2	CAD 2	CAD 16	CAR 16	CAR 16	CCL4 250	CHC3 250
Animal Number (3)	no	627	628	629	6374	638	839	1857	1858	2046	2048	1627
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	yes-ncst	yes-ncst	no
Gene Name (5)	no	no	no	no	no	no	no	no	no	no	no	no
Phase-1 RCT-107	0.81757727	1.0465444	0.95489544	0.83681087	0.83677681	0.83677502	1.38811271	1.09043988	0.638380035	0.40573965	0.82116771	1.0436077
Betaine homocysteine methyltransferase (BHMT)	1.0972469	0.51269667	1.1553246	0.34189126	0.6463215	0.22061689	0.225600302	0.7926875	0.37133485	0.64819384	0.50573958	0.86532947
Proliferating cell nuclear antigen gene	0.8839248	1.0726424	0.9302558	0.2189149	0.8378839	0.8969323	1.3174077	1.150227	1.0542336	1.0520881	1.30017784	1.0824805
Cytochrome P450 2018	0.8781995	0.48800454	0.8907357	1.1646223	0.9351607	1.279084	0.72882515	1.22754	1.0496057	0.7857827	0.63107654	1.1816547
Cytochrome P450 2C11	0.5621371	0.60280687	0.8477837	0.42051163	0.96739936	1.1038461	0.78282515	0.89162298	0.76225764	0.79304381	0.60587264	1.07332659
Phase-1 RCT-260	1.1558186	0.7720305	0.9245088	0.834636	0.9556271	0.9994872	0.43966021	0.86055556	0.5214049	0.4585449	1.02272778	0.95049686
Phase-1 RCT-59	0.8625121	0.9031705	0.87827474	0.80327696	0.8645518	0.972248	3.5690996	2.6004954	1.7264248	0.8761132	0.4585184	1.4390785
Beta-actin, sequence 2	1.0885948	2.1469803	2.8407571	1.7654544	1.6174324	1.1743204	0.81158962	0.508712	1.2568207	1.326807	1.169625	1.0486084
Phase-1 RCT-282	1.1267186	0.9490365	1.0713711	1.1744982	1.1335309	1.1033461	0.82120855	0.94083124	0.95207384	0.84675918	0.8922473	0.9882028
Pyruvate kinase, muscle	1.0721862	0.9030008	1.1117191	1.316938	1.423928	1.1922361	1.2966167	1.048933	1.091483	1.1781028	0.87157486	1.0811096
Osteocalcin	1.089122	1.0685326	1.1171157	1.7863933	1.1931656	1.2994486	1.1410328	1.1045834	1.0791085	2.0058115	1.8926034	1.3305392
Colgauprin B1	1.0334004	1.069343	1.3597502	1.2159463	0.9740068	0.8419801	1.241617	1.056641	1.1738082	1.0913837	1.065574	1.2514061
Colgauprin AII	0.77227167	1.914278	2.8755283	2.7966767	1.614956	0.6085442	0.24395787	0.5343935	0.47672057	0.3962688	0.58613864	0.49303623
Colgauprin-32	0.9037707	0.93830323	0.9648865	0.899721	0.6653612	0.929802	0.663612	1.4769739	1.2931671	1.0437133	0.9651075	1.75424521
Phase-1 RCT-109	1.0147148	1.5853276	1.9990431	1.107716018	1.22716018	1.0265298	0.93175924	0.83768705	0.96284393	1.0222388	1.0389122	0.86353793
Glycine methyltransferase	0.7331911	0.78911173	1.5491124	1.1693579	0.8259915	0.663612	0.82214398	0.9584782	0.92635905	0.9067008	0.4814339	0.8181267
L-lysine-gamma-actone oxidase	0.7966122	0.427835	0.5914991	0.5540663	0.6169122	0.861922	0.10724293	0.51720524	0.43468014	0.7327986	0.7898811	0.6890456
Phase-1 RCT-256	1.0019885	0.94528884	0.8093351	0.8478084	0.8362865	0.7646067	0.36882694	0.68095686	0.59837023	0.8092336	0.582684	0.746143
Carbonic anhydrase III	1.095533	0.973953	1.4320648	1.1717652	0.8692392	0.6711389	0.7817276	0.8314764	1.0573388	1.0477348	0.9205155	1.1717979
Phase-1 RCT-178	0.7804534	0.5732025	0.813779	0.2245908	0.49841147							
Uthrin protein 2, precursor	1.0594942	1.2079959	1.1648697	1.1653006	0.9611967	0.96342516	0.9573752	1.0172932	1.4218636	1.062334	1.3602635	0.9431075084
Intracellular growth factor 1	1.62200396	1.2053192	1.0862569	1.17200124	1.1653006	1.2803812	0.8478993	0.28232285	0.47333592	0.92635905	0.9067008	0.4814339
Na+/K+ ATPase	1.0019885	0.94528884	0.8093351	0.8478084	0.8362865	0.7646067	0.36882694	0.68095686	0.59837023	0.8092336	0.582684	0.746143
Phase-1 RCT-185	1.1154919	0.89231753	1.0464543	0.8295537	1.0181258	0.8603391	0.6803391	0.6803391	0.6803391	0.6803391	0.6803391	0.6803391
Colin	1.1154919	0.89231753	1.0464543	0.8295537	1.0181258	0.8603391	0.6803391	0.6803391	0.6803391	0.6803391	0.6803391	0.6803391
Stafin	1.1154919	0.89231753	1.0464543	0.8295537	1.0181258	0.8603391	0.6803391	0.6803391	0.6803391	0.6803391	0.6803391	0.6803391
60S ribosomal protein L6	0.8645513	0.8024666	1.1206372	1.5990414	1.1654942	0.9641967	0.8972784	0.8972784	0.8972784	0.8972784	0.8972784	0.8972784
Calpain I heavy chain	1.0282033	1.3426235	1.3117093	1.559418	1.059072	0.8972784	0.8972784	0.8972784	0.8972784	0.8972784	0.8972784	0.8972784
Calpain II	1.06534	1.0345411	1.081489	1.3812785	1.1311082	1.1311082	1.1311082	1.1311082	1.1311082	1.1311082	1.1311082	1.1311082
Collagen type II	0.96232623	0.7092398	1.3469599	1.2968084	0.96127666	0.8372818	0.8372818	0.8372818	0.8372818	0.8372818	0.8372818	0.8372818
Phase-1 RCT-179	0.9701597	0.9301364	1.146868	1.2391739	1.0653725	0.96127666	0.8372818	0.8372818	0.8372818	0.8372818	0.8372818	0.8372818
Voltage-dependent anion channel 2 (Vdac2)	1.0741417	1.2761326	1.8867217	1.609847	1.610947	1.610947	1.610947	1.610947	1.610947	1.610947	1.610947	1.610947
Phase-1 RCT-182	1.224292	0.980671	1.190821	1.3025424	1.2055568	1.2055568	1.2055568	1.2055568	1.2055568	1.2055568	1.2055568	1.2055568
Adrenomedullin	0.87119055	0.61931634	0.8674933	0.603012	0.5993428	0.6427052	0.735699	0.69647276	0.7973023	0.93568	1.0301368	0.8737494
Tetraspanin	1.3262096	1.1918932	1.2875615	1.3832144	1.2735395	1.2735395	1.2735395	1.2735395	1.2735395	1.2735395	1.2735395	1.2735395
High affinity IgE receptor gamma chain	1.102827	1.2411557	1.6697525	1.502082	1.7903042	1.7903042	1.7903042	1.7903042	1.7903042	1.7903042	1.7903042	1.7903042
(F0E1gamma)	0.81488305	0.87535354	0.7876638	0.8837703	1.2578269	1.2578269	1.2578269	1.2578269	1.2578269	1.2578269	1.2578269	1.2578269
Gamma-actin, cytoplasmic	1.0536292	0.87172893	1.17478	1.2188777	1.2257846	0.9121677	1.454707	1.1121687	1.041632	1.1108842	0.8512478	0.8512478
Uncoupling protein 2	0.9068180	0.8592542	0.8704533	1.1030862	1.0459558	0.96176985	0.96176985	0.96176985	0.96176985	0.96176985	0.96176985	0.96176985
Phase-1 RCT-34	0.8542301	0.2415291	0.31774002	0.56451	0.646282	0.6257801	0.8895522	1.1477653	1.0591389	1.3717177	1.4609532	1.4609532
Phase-1 RCT-31	0.8341727	0.701316	0.701316	0.701316	0.701316	0.701316	0.701316	0.701316	0.701316	0.701316	0.701316	0.701316
Oxyin D1	1.2658903	1.7770077	1.5814594	1.414274	0.7844147	0.7844147	0.7844147	0.7844147	0.7844147	0.7844147	0.7844147	0.7844147
IgE binding protein	1.1518028	0.9621174	1.0439828	0.9571577	1.0156483	0.934473	1.0296745	0.9519332	0.9734221	1.097188	1.1591361	1.1494908
Zinc finger protein	1.0192848	0.9621174	1.0439828	0.9571577	1.0156483	0.934473	1.0296745	0.9519332	0.9734221	1.097188	1.1591361	1.1494908
Phase-1 RCT-138	1.1518028	0.9621174	1.0439828	0.9571577	1.0156483	0.934473	1.0296745	0.9519332	0.9734221	1.097188	1.1591361	1.1494908
Alpha-actinin	0.9309459	1.1923523	1.0086632	0.8587735	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882
Alpha-prothymosin	0.9309459	1.1923523	1.0086632	0.8587735	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882
Calpain 2	0.9309459	1.1923523	1.0086632	0.8587735	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882
Phase-1 RCT-12	0.9309459	1.1923523	1.0086632	0.8587735	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882	0.6606882
Cathepsin B	0.9864173	1.9319571	0.7158476	0.8981123	0.7687932	1.0772015	1.3621575	1.1982108	1.1982108	1.1982108	1.1982108	1.1982108
Phase-1 RCT-24	1.1320962	0.6409109	0.9921198	1.2730005	0.88529986	0.88529986	0.88529986	0.88529986	0.88529986	0.88529986	0.88529986	0.88529986
Phase-1 RCT-2	0.9953169	1.3276935	1.212805	1.225988	0.9681445	1.2237853	1.0809688	1.1949859	1.0809688	1.1949859	1.0809688	1.1949859

Phase-1 RCT-68	1.0341538	1.1438953	1.1476239	1.2639475	1.2146407	1.1124699	1.3149091	1.1228688	1.1710354	1.3016754	1.0428538	0.97915465
Cytin G	1.0599582	1.0296582	1.1624857	1.2803412	1.0893412	1.0893412	2.9596966	2.3807028	1.3033939	1.3033939	1.3033939	0.9099666
Hypoxanthine-guanine phosphoribosyltransferase	1.0529081	0.7480323	1.0307864	1.042244	0.7685346	0.7685346	0.899069	0.7886922	1.0057204	1.0234536	1.0276684	0.94816846
Tissue inhibitor of metalloproteinases-1	1.1551563	1.8392805	1.5332922	2.231076	1.4629217	1.233323	1.369147	1.38424	1.2571045	1.0054023	1.4146869	1.1661635
ID-1	1.0540423	0.7184768	0.8383352	0.9985904	0.8167851	0.9327705	0.8266784	1.2587248	1.230579	0.9324487	1.0281162	0.8949663
Ribosomal protein S9	1.1315293	0.9431823	0.8310816	0.9542063	1.0317105	1.055816	0.94896716	0.8111987	1.0082144	1.0288938	1.3019786	1.143338
Heme oxygenase	0.9859683	0.4283924	1.0643402	3.7300348	5.5524483	2.7779517	1.0551637	0.9145828	1.2519281	1.2521688	1.2716238	1.0900185
Ribosomal protein S8	1.1942743	1.5502096	1.6450206	1.6552973	1.901067	1.3777891	0.7040142	0.8297367	1.2437532	1.3446913	1.0737239	1.117432
Ribosomal protein S17	1.357556	1.4335613	1.5461757	1.8287377	1.8742467	1.373289	0.7041142	0.58819083	0.65073574	1.2143977	1.221496	1.1587939
Nucleoside diphosphate kinase beta isoform	1.3663622	1.5598345	1.3298112	1.3820508	1.3680536	1.3470265	0.51531795	0.9118843	1.2081472	1.3118549	1.4543111	1.3822663
Phase-1 RCT-121	1.0431366	1.0005095	1.1378088	0.77614343	0.7417699	1.011972	1.318387	1.0826743	1.1381892	1.0425304	1.0851204	0.9787075
14-3-3 zeta	0.9000934	0.7570685	0.8971722	0.8197048	0.83247614	0.8610177	1.8772742	1.5516932	1.6336448	1.2152431	1.4221848	1.0676337
60S ribosomal protein L8 (alternate done 1)	1.1133198	1.227273	1.5133053	1.8539314	1.7495361	1.1418878	0.79013014	0.7496399	0.8311378	1.1377889	1.2077099	1.0808362
Beta-tubulin class I	1.1128998	0.4383132	0.604121	1.0230123	1.7953618	0.9237004	1.049175	0.9023383	0.8327555	2.03778	1.5125707	1.103874
Organic cation transporter 3	1.068411	1.3185735	1.2200881	0.9481662	0.8938224	0.933927	0.9388556	0.7920286	0.8931727	1.1210359	1.2935792	1.055209
Beta-actin	0.9290886	0.5598599	0.7808945	0.7334646	0.8184533	1.0721198	1.8051938	1.2402866	1.5750666	1.4084526	1.1297388	1.183365
Cathepsin S	0.8353895	1.7656417	1.393412	1.5292982	1.833822	1.4315379	1.0652981	0.93887	0.988813	1.0891822	1.1142695	1.1142765
Bilirubin reductase	1.082258	0.8452485	1.0904614	1.1936193	1.1387571	1.0836538	1.4541475	1.2521261	1.2218544	1.1033774	1.316425	1.2565149
Phase-1 RCT-154	1.09756	0.9735964	0.9458876	1.0849309	0.9623003	1.0062271	1.2482911	1.2398216	1.1304674	1.0653132	1.3830305	0.85562
Phase-1 RCT-293	0.84270736	1.1558908	1.3943821	1.5456153	1.3557298	1.4896467	1.0327048	0.9481684	1.0646359	1.0060487	1.1000072	0.99501285
Annexin V	0.8909894	1.1425751	1.292336	1.2745287	1.1334476	1.10877	1.3277035	1.0342768	1.2647789	1.2309638	1.1093993	1.0752969
Complement factor I (Cfi)	1.1162836	1.7900925	1.4337492	1.7587571	2.673748	2.170545	0.92007418	0.83142426	1.2465386	1.0147135	1.3945721	1.122762
Phase-1 RCT-276	1.0222511	1.0435268	0.987663	1.0481189	0.8280046	0.8888903	0.8974562	0.84245914	0.741641	1.0619423	1.161385	1.0718168
Tyrosine aminotransferase	0.6540383	0.91085425	0.9223309	0.84334624	1.0540736	0.772451	0.52730885	0.4248968	0.4604452	1.488484	1.2282906	1.1490792
Glutathione peroxidase	0.7280087	1.3478278	1.057804	1.3037933	1.8553373	1.4921211	0.9715445	0.7533797	0.7834588	0.964658	0.908519	1.3552814
Histidine-rich glycoprotein	0.88875514	1.0496592	1.2468632	0.9860337	1.0454805	0.9655688	0.5720448	0.7697544	0.8624543	0.7959063	1.0831065	
Carbonic anhydrase III, sequence 2	0.8343396	0.72364056	1.0292805	0.9062954	0.78969187	0.74561876	0.5073048	0.806439	0.7128464	0.83128893	0.75427306	1.0940048
Phase-1 RCT-92	1.0114087	0.8499688	1.0292805	0.87503946	0.71038107	0.70762684	0.56393373	0.73485253	0.7377315	0.8975489	0.935271	0.92823737
Transitional endoplasmic reticulum ATPase	0.86142364	0.8493851	0.844127	0.76153755	0.795594	0.87895565	0.8978708	0.81320145	0.895198	1.0017833	1.034594	0.9853732
Phase-1 RCT-88	0.9879973	1.031671	0.8376663	0.826535	1.0043882	0.98637444	0.7837293	0.94819134	0.8546914	0.9294024	0.82212675	0.78765464
Phase-1 RCT-296	0.6334842	0.8282807	1.2816992	1.0065228	1.0458282	0.7365757	0.42315423	0.734193	0.58112825	1.080402	1.201451	1.102776
Phase-1 RCT-161	0.85271653	0.4990388	0.6565353	0.5072101	0.61084755	0.7374718	0.7778599	1.1972619	1.0629773	1.4547825	1.995588	0.926111
Glutathione S-transferase theta-1	1.0747991	0.94847048	0.99596047	0.84077567	0.8974819	0.7903406	1.2562506	1.3810898	1.8697338	1.6880232	1.5231421	1.2046309
Phase-1 RCT-168	1.0193028	1.1802148	1.2677609	1.2797205	1.1171018	1.1678708	0.61542815	0.8013723	0.72460786	0.8847172	0.80880934	0.9050113
Phase-1 RCT-182	0.85667684	1.4200408	1.176277	0.9971715	1.3058347	1.008235	0.74621457	0.77439	0.8328355	0.8218084	0.8567826	1.042537
JNK1 stress activated protein kinase	0.96736443	1.2810931	1.0812016	0.8280049	1.0060792	1.0092686	0.6033469	0.7658406	0.8061491	0.8051029	0.865960	0.9650617
Phase-1 RCT-81	0.83868345	1.1500531	1.1848251	0.87940788	1.1132895	1.0401231	1.5941308	0.9888298	0.9945181	0.8878185	0.9824673	1.0792885
Phase-1 RCT-33	1.0947382	1.0288372	1.3524175	1.8853978	0.9478841	0.78534188	0.7704074	0.86157244	0.85187507	0.85502	0.7185448	0.78540705
Phase-1 RCT-178	0.9695095	0.9514448	1.0286388	0.96285255	0.9913727	0.97684416	0.8608165	0.9735394	0.8401318	0.72040826	0.69043803	0.6372412
Apolipoprotein CIII	0.97434866	0.89295024	0.9491501	0.5910866	0.7155482	0.83002377	0.5102383	0.8206228	0.8603416	0.7365168	0.93966523	0.78418106
Phase-1 RCT-68	1.0104785	0.82463405	0.8286338	0.8269818	0.72524184	0.84275377	1.059587	0.98174274	0.90400237	0.7854089	0.8860593	1.0058944
NADH-cytochrome b5 reductase	1.0098094	1.2108554	0.894916	1.2688086	1.2722616	1.0523027	0.65127707	0.6948123	0.59384704	0.8005888	0.64030147	0.87087864
Alpha 1 - inhibitor III	0.628192	0.54312295	0.76746833	0.8916961	0.8344339	0.7869307	0.8033119	1.0452187	0.6778047	0.8651518	0.6133087	1.0745808
Phase-1 RCT-233	0.9440259	1.038585	1.3063301	1.140448	0.8854251	0.85581213	0.3931878	0.74753165	0.6652055	0.8383318	0.9935469	0.9211093
Paraoxonase 1	0.6951164	1.1347339	0.7494653	0.535078	1.5015268	0.9988992	0.49681336	0.6601311	0.58781085	0.8094301	0.9786457	0.950003
Presentin-1	0.6717431	0.5738198	0.78887185	0.74597574	1.0641698	0.82116893	0.61173165	1.0616295	0.6864862	0.9680051	0.7020629	1.132715
Apolipoprotein C1	1.1416918	0.8929913	0.8478754	0.782818	0.8029881	0.7147776	0.27185422	0.48622632	0.41341543	0.8146088	0.8888736	0.77787485
Cytochrome P450 2C23	0.8488911	1.0235347	0.8270437	1.1638527	1.5414809	1.084284	0.9894971	0.91441613	0.8707982	0.71630746	0.85268824	0.85384777
Phase-1 RCT-227	0.81166375	0.85503614	1.015839	0.76260535	0.8020855	0.78033175	0.9349575	1.0380468	1.0346432	0.8387797	0.9128243	0.74584084
Hepatic lipase	0.6511015	0.7063036	0.6773834	0.555138	1.590424	0.5080766	0.0068098	0.6419228	0.46137613	0.7000697	0.8309499	0.8692528
Phase-1 RCT-164	1.0054892	0.99407935	0.99523466	0.5770691	0.9045551	0.7692118	1.005794	0.9086702	0.9252538	0.76195145	0.8738218	0.9763812
Insulin-like growth factor-1, exon 6	0.87580445	0.732521	0.72241133	1.0488412	0.9148727	1.0541233	2.8751242	3.2041468	2.8671982	1.3524882	1.3615278	1.1354089
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	0.75828266	0.72463405	0.84080414	1.0994071	1.0724165	0.70808746	0.96348566	0.71408744	0.83376956	0.811426	0.8988087	
Dynamilin-1 (D100)	1.0534015	0.89914884	0.92977434	0.6120065	0.8335594	0.64625087	0.4234387	0.8115717	0.7448509	0.8269038	0.8634655	0.7622323
DNA polymerase beta	0.95889384	0.94640744	0.99481344	1.0700069	0.90452343	0.9281922	0.8024384	1.1082141	0.8801926	0.9662344	1.041187	0.90916765
	1.081534	1.0704764	1.1491803	1.2671165	1.066645	1.1259089	0.9437412	0.7572463	0.8883968	1.2931202	1.4465741	1.1379282

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Phase-1 RCT-173	1.147203	0.9845881	1.0495013	0.820447	0.58587684	0.8873386	0.8971723	1.0118228	0.9821044	1.1899408	1.3871306	1.293887	1.0453091
Ubiquitin conjugating enzyme (RAD 6 homologue)	1.0942103	0.93689784	0.94109994	0.8059041	0.812269	0.8803934	1.1526109	1.0265478	1.1894125	1.1691688	1.3381786	1.1723818	1.2830906
Ribosomal protein L13A	1.1852212	1.187738	1.3888159	1.8730823	1.0179896	1.2042915	1.0160464	0.8730846	1.0321352	1.0548769	1.0254177	0.9730299	1.0101775
Phase-1 RCT-144	0.8868567	1.0168708	0.9428757	1.047061	0.9409286	1.0075805	1.0124658	1.0343456	0.9233654	1.031113	1.1516855	1.038018	1.2569329
c-Haas	1.0045537	0.857471	1.1192682	1.3336514	1.115029	1.0855805	1.2788121	1.2611691	1.2791841	0.89410474	1.353719	0.92708156	0.9574443
Yescicular monomeric transporter (VMA1)	1.274237	1.4957715	0.98220237	0.882758	1.1954308	1.1141624	1.3620435	1.027915	1.2359947	1.0656192	1.2770688	1.0693814	1.0185335
Phase-1 RCT-273	1.1316817	0.93051153	0.89248536	1.0020281	1.0571722	1.0547863	1.1465058	1.1872771	0.98130266	0.8838531	0.8167628	0.9827665	1.0081483
Phase-1 RCT-230	1.1908388	1.0748166	0.8923891	0.99510114	1.207761	1.0037527	1.3160411	1.369757	1.192879	0.9772837	0.9014226	1.042058	1.0521189
Phase-1 RCT-74	1.0126064	1.0364302	0.9813524	1.017411	1.0214722	1.0214722	1.0214722	1.3782638	1.0755548	1.0044312	0.8938572	0.9734878	1.1218606
Phase-1 RCT-40	1.2230896	0.9657095	0.9404203	0.82117367	1.0083398	0.89065695	1.4552072	1.6855687	1.0981802	0.881802	1.0008789	0.96904786	1.1218606
Phase-1 RCT-158	0.9609692	1.0597085	0.94843143	1.0416823	0.9743834	1.0491099	0.8894985	1.0853733	1.0518732	0.85095353	0.85959574	0.96297187	1.1218606
Deoxyribonuclease	1.1042856	1.0206331	0.95780313	0.89178534	1.0134584	1.0318582	0.8961741	1.161752	0.786743	0.8514588	0.9184818	0.9420866	1.0364053
(Inositol) polyphosphate multikinase (ppmk)	1.0070183	0.9402816	0.8374355	0.89682365	1.0923965	0.8058982	1.1921951	1.1416999	0.786743	0.8514588	0.9184818	0.9420866	1.0364053
Neuronal cell adhesion molecule (NCAM)	0.8282475	0.7706164	0.7850215	0.8677557	0.91717124	0.8798897	1.8362154	2.0154173	1.4088521	1.0164425	0.94571614	1.0728073	1.0857653
Hepatocyte growth factor receptor	0.9287204	0.75556713	0.8456634	1.26978492	1.2678492	1.1609416	1.3021513	1.349452	1.1752189	1.0341059	1	1.0526314	1.3580049
Emery	1.1282058	0.8609644	0.87434614	0.7797183	0.8803649	0.9243221	1.6844639	1.7003748	1.1177793	0.8820628	0.750032	0.8089345	1.3070084
Phase-1 RCT-129	0.9882132	0.9056199	0.7867508	0.9240986	0.8828317	1.0086313	1.0178235	0.83163065	1.024183	1.3372025	1.4405721	1.5920578	0.84762933
Dopamine receptor D2	1.1374006	0.9608048	0.8513728	0.91822165	1.095408	1.0095782	1.071741	0.87448	0.8968115	1.045764	1.0638521	1.0270763	1.0831859
Four repeat ion channel	1.077166	0.99305403	1.0141723	0.91656816	1.0144492	0.94849	1.038585	1.2242978	0.8563142	0.976835	0.9840235	0.943289	1.0380805
Adrenomedullin	1.2909882	1.0168606	0.8897927	0.88873804	0.9989101	1.0173882	2.528198	1.6804885	1.3247814	0.8765437	0.7148274	0.8172887	1.0128188
Caveolin-3	1.0067738	0.8492927	0.8702596	0.8845624	0.82576493	0.8	1.4050932	1.4407475	0.99717164	0.9763449	0.9262087	1.0068512	1.2355129
Phase-1 RCT-64	1.1568241	0.7972888	1.0370356	1.0511705	1.0653085	1.3380833	1.302399	1.8841054	1.1119528	0.8881058	0.9109857	0.928509	1.0194842
Phase-1 RCT-129	1.0428718	1.1489897	1.1222962	1.1607207	1.1606482	1.1409768	0.9463908	0.9680917	0.9658683	0.91114368	0.9246805	0.9643826	1.0584232
Sarcoplasmic reticulum calcium ATPase	1.0461708	1.4324766	0.9600284	0.9400993	1.124177	1.0654888	1.045943	0.91928005	0.97968814	1.0429484	1.1855446	0.8644909	1.0903408
Phase-1 RCT-79	1.1302223	1.1117017	0.8713839	0.8975193	1.3144821	1.02819	1.207432	0.96688324	0.9784764	0.946844	0.95657116	1.0274407	1.0903408
Phase-1 RCT-252	1.0314988	0.95167303	1.1347846	0.9085839	0.81950723	0.95326736	0.4033376	0.9722417	0.9228222	1.282507	1.2875841	1.1524371	1.2038304
Phase-1 RCT-151	1.1329687	0.9826158	0.991287	1.088315	1.1831281	1.3472047	0.929161	0.9998987	0.99139196	0.9336333	0.81676624	0.8838017	1.0873797
Phase-1 RCT-70	0.9807875	0.95583177	1.088071	1.0023574	0.8830492	0.8776924	1.1698924	1.2417084	0.9342878	1.1310561	0.9231478	1.0512317	0.8639693
Phase-1 RCT-150	1.0096004	0.82878574	0.7784308	0.9171308	0.8072455	0.922893	0.8523001	1.2370688	1.0295832	0.8935387	0.9609264	1.0168953	1.2465207
25-hydroxyvitamin D3-1 alpha-hydroxylase	1.0350037	1.0161427	1.0371549	1.017035	0.8828855	0.99380545	1.058281	1.3471886	0.97976744	0.8716756	0.8609281	0.85354625	0.94688463
Phase-1 RCT-119	1.2220336	0.9375807	0.9215505	0.8488445	1.0516269	0.83078945	0.50587255	0.71327055	0.8032956	1.2190909	1.3034463	1.2319027	1.1171447
Peroxisomal 3-oxoacyl-CoA thiolase 2	1.2457116	1.5021113	1.8228625	1.5323247	1.2155102	1.12887	0.7054976	0.89646634	0.9835013	1.2100469	1.1567147	1.4020818	1.2862482
Phase-1 RCT-148	1.0875362	1.0154579	1.0528523	1.2380928	1.0033871	0.90033	1.1277527	1.0746533	1.0488885	0.928117	1.280384	1.1670889	1.0837922
Superoxide dismutase Mn	1.3490118	1.6290375	1.1978994	1.365724	1.2091496	0.8882131	1.2309521	1.0239867	1.3258122	1.0572683	1.1434083	1.1883974	1.1864102
Phase-1 RCT-115	1.045287	0.7437316	0.7755194	0.9552599	0.8736523	1.8812768	1.9857035	1.6146903	1.2492148	1.1713016	1.3224268	1.1178282	1.178282
Alpha-1 microglobulin/bikunin precursor (Ambp)	0.8851687	1.2558882	1.1286409	0.8668916	1.2606028	1.0718158	0.76780075	0.86803487	0.9077508	0.9122094	0.9538372	1.0835345	1.0245978
Phase-1 RCT-18	1.0318893	1.0375388	0.9755421	0.99532898	0.9965491	1.0045902	0.8444354	1.0336978	0.873177	1.0201975	1.1288812	0.8804088	1.2089783
Marlin	1.174048	1.3088124	0.9261201	0.8777938	1.158334	1.0822510	1.4170004	1.3873547	1.0571852	0.8925551	1.0381029	1.0453535	1.0334201
Decorin	1.0403863	2.0997808	1.8146551	2.4164965	1.2343402	1.3175455	1.3427088	1.2846521	1.100443	1.0878946	0.9595872	1.2350111	1.0328742
Retinoid X receptor alpha	0.8841892	0.8327528	0.89089458	0.83268494	0.7861924	0.7283887	1.4573038	1.4846795	1.4699668	1.0007842	0.8885184	0.95445657	0.8647824
Cellular nucleic acid binding protein (CNBP)	0.7828373	1.4447073	1.306061	1.0557234	1.1321528	1.041117	0.805074	0.8782723	0.8285883	1.0882118	1.0787271	1.0214577	0.8570168
NADPH cytochrome P450 oxidoreductase	1.1202277	0.45473418	0.73871624	0.85333014	0.8547892	0.84898087	1.4782832	1.3292413	1.5013148	1.344429	1.0805117	1.136197	1.1248097
Malic enzyme	0.9731214	0.8094274	1.0204176	0.90671265	0.71159085	0.897094	1.3404488	0.9037413	0.80438346	1.215028	1.0956237	0.8111231	0.9298475
Caspase 1	0.9785538	0.98846503	0.9738821	0.822488	0.78518404	0.8585028	1.3114924	1.2499135	1.1718038	1.1030885	1.2541015	0.98118463	1.1776356
Cystatin C	1.1464728	0.8507324	0.7988715	1.0406905	1.1595317	0.9524197	0.9037189	0.8434849	0.854943	1.1297824	1.1546545	1.2230195	1.0862258
p53CDC	0.8647809	1.1362681	0.84162005	1.2032914	0.87371475	0.9082173	1.5009199	1.2814289	1.1033994	1.2920731	0.90405557	1.2823875	0.998911
Poly(ADP-ribose) polymerase	0.99622893	1.0184307	0.8887898	1.0083522	0.97264725	1.0539886	1.038886	0.738014	1.033394	1.0727865	1.1341121	0.9873146	1.051136
Tissue plasminogen activator	1.0170166	0.9577281	0.8877754	1.0392473	0.9957702	1	0.8979803	0.9667885	0.9667089	1.0355717	1.0576382	1.0458386	1.2717144
Multidrug resistant protein-1	0.8681108	0.8721649	0.7169925	1.1234661	0.8237516	1.4737548	3.3900235	2.570871	3.0459984	1.3651082	1.2587679	1.469048	1.0857657
Phase-1 RCT-207	1.0488476	0.8707481	0.9998984	0.8717905	0.7377786	1.005588	2.828484	0.778414	1.711263	1.0860054	1.2031789	1.0810528	1.0023454
Phase-1 RCT-181	0.9724378	1.1255991	1.20644	1.0489506	0.7828528	0.8760701	0.7883195	0.8616228	0.8331876	1.025852	1.025852	1.1270132	1.025852
Gap junction membrane channel protein beta 1 (Gjb1)	0.8778957	0.83434623	1.0858786	1.0274904	0.804739	0.6811612	1.0874425	1.6345972	1.325745	1.0424844	0.8970381	1.0180028	0.9509895
Aquaporin-3 (AQP3)	0.9116323	0.96410557	1.0058259	0.9723379	0.9904214	0.94323387	0.93614586	0.97442764	1.2308964	0.8421468	0.877265	0.9128553	0.9395814
Myelin basic protein	0.7488901	0.8768958	0.7686923	0.9790223	0.7188473	0.9873057	1.3314215	1.1451164	1.2045507	0.9336182	0.9381324	1.0197842	1.0197842
Calgranulin B3	1.1454931	1.0398321	1.1467638	1.0455005	0.98378843	1.3688836	1.0781338	0.8982966	0.9789548	1.03853	1.034786	1.0038812	1.0388555

Table 30

Phase-1 RCT-156	0.88042984	0.98549974	1.0472499	0.9074011	0.98696237	1.0804905	1.1207283	0.8971817	1.1516392	0.9985875	0.8627687	1.0037644	0.9207258
Protease activator 28 alpha	1.147022	1.1232285	0.99599034	1.0052883	1.2761179	1.2189189	0.9709987	0.81004417	1.0027183	0.9591767	1.0971249	1.0830462	1.2377565
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 h: yes=necr, necrosis observed; yes=both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 26)													

Table 30

Table 30. Expression Data for 72 Hour Timepoint															
(1)															
Compound-Dose (2)	CHL3 250	CHL3 500	CHL3 1000	CHL3 2000	CHL3 4000	CHL3 8000	CHL3 16000	CHL3 32000	CHL3 64000	CHL3 128000	CHL3 256000	CHL3 512000	CHL3 1024000	CHL3 2048000	CHL3 4096000
Animal Number (3)	1628	1628	1628	1628	1628	1628	1628	1628	1628	1628	1628	1628	1628	1628	1628
Liver Toxicity Information Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	Phase-1 RCT-107	Phase-1 RCT-107	Phase-1 RCT-107	Phase-1 RCT-107	Phase-1 RCT-107	Phase-1 RCT-107	Phase-1 RCT-107	Phase-1 RCT-107	Phase-1 RCT-107	Phase-1 RCT-107	Phase-1 RCT-107	Phase-1 RCT-107	Phase-1 RCT-107	Phase-1 RCT-107	Phase-1 RCT-107
Beta-tubulin	1.2575189	1.2575189	1.2575189	1.2575189	1.2575189	1.2575189	1.2575189	1.2575189	1.2575189	1.2575189	1.2575189	1.2575189	1.2575189	1.2575189	1.2575189
Beta-actin	1.8382691	1.8382691	1.8382691	1.8382691	1.8382691	1.8382691	1.8382691	1.8382691	1.8382691	1.8382691	1.8382691	1.8382691	1.8382691	1.8382691	1.8382691
Proteinase 3	0.907292	0.907292	0.907292	0.907292	0.907292	0.907292	0.907292	0.907292	0.907292	0.907292	0.907292	0.907292	0.907292	0.907292	0.907292
Cytochrome P450 2D18	1.0301894	1.0301894	1.0301894	1.0301894	1.0301894	1.0301894	1.0301894	1.0301894	1.0301894	1.0301894	1.0301894	1.0301894	1.0301894	1.0301894	1.0301894
Cytochrome P450 2C11	0.9090306	0.9090306	0.9090306	0.9090306	0.9090306	0.9090306	0.9090306	0.9090306	0.9090306	0.9090306	0.9090306	0.9090306	0.9090306	0.9090306	0.9090306
Phase-1 RCT-280	1.5939356	1.5939356	1.5939356	1.5939356	1.5939356	1.5939356	1.5939356	1.5939356	1.5939356	1.5939356	1.5939356	1.5939356	1.5939356	1.5939356	1.5939356
Phase-1 RCT-58	1.2251747	1.2251747	1.2251747	1.2251747	1.2251747	1.2251747	1.2251747	1.2251747	1.2251747	1.2251747	1.2251747	1.2251747	1.2251747	1.2251747	1.2251747
Beta-actin, sequences 2	0.901458	0.901458	0.901458	0.901458	0.901458	0.901458	0.901458	0.901458	0.901458	0.901458	0.901458	0.901458	0.901458	0.901458	0.901458
Phase-1 RCT-292	0.9325755	0.9325755	0.9325755	0.9325755	0.9325755	0.9325755	0.9325755	0.9325755	0.9325755	0.9325755	0.9325755	0.9325755	0.9325755	0.9325755	0.9325755
Pyruvate kinase, muscle	0.87115608	0.87115608	0.87115608	0.87115608	0.87115608	0.87115608	0.87115608	0.87115608	0.87115608	0.87115608	0.87115608	0.87115608	0.87115608	0.87115608	0.87115608
Osteocalcin	0.8442192	0.8442192	0.8442192	0.8442192	0.8442192	0.8442192	0.8442192	0.8442192	0.8442192	0.8442192	0.8442192	0.8442192	0.8442192	0.8442192	0.8442192
Calgranulin B1	1.040891	1.040891	1.040891	1.040891	1.040891	1.040891	1.040891	1.040891	1.040891	1.040891	1.040891	1.040891	1.040891	1.040891	1.040891
Acylprotein All	0.71820578	0.71820578	0.71820578	0.71820578	0.71820578	0.71820578	0.71820578	0.71820578	0.71820578	0.71820578	0.71820578	0.71820578	0.71820578	0.71820578	0.71820578
Connexin-32	1.3231486	1.3231486	1.3231486	1.3231486	1.3231486	1.3231486	1.3231486	1.3231486	1.3231486	1.3231486	1.3231486	1.3231486	1.3231486	1.3231486	1.3231486
Phase-1 RCT-109	1.0213104	1.0213104	1.0213104	1.0213104	1.0213104	1.0213104	1.0213104	1.0213104	1.0213104	1.0213104	1.0213104	1.0213104	1.0213104	1.0213104	1.0213104
Glycine methyltransferase	1.4842136	1.4842136	1.4842136	1.4842136	1.4842136	1.4842136	1.4842136	1.4842136	1.4842136	1.4842136	1.4842136	1.4842136	1.4842136	1.4842136	1.4842136
L-lactate dehydrogenase	1.052008	1.052008	1.052008	1.052008	1.052008	1.052008	1.052008	1.052008	1.052008	1.052008	1.052008	1.052008	1.052008	1.052008	1.052008
Phase-1 RCT-256	1.1801494	1.1801494	1.1801494	1.1801494	1.1801494	1.1801494	1.1801494	1.1801494	1.1801494	1.1801494	1.1801494	1.1801494	1.1801494	1.1801494	1.1801494
Carbonic anhydrase III	1.2948317	1.2948317	1.2948317	1.2948317	1.2948317	1.2948317	1.2948317	1.2948317	1.2948317	1.2948317	1.2948317	1.2948317	1.2948317	1.2948317	1.2948317
Phase-1 RCT-78	1.0297524	1.0297524	1.0297524	1.0297524	1.0297524	1.0297524	1.0297524	1.0297524	1.0297524	1.0297524	1.0297524	1.0297524	1.0297524	1.0297524	1.0297524
Uridylate protein 2 precursor	0.7202776	0.7202776	0.7202776	0.7202776	0.7202776	0.7202776	0.7202776	0.7202776	0.7202776	0.7202776	0.7202776	0.7202776	0.7202776	0.7202776	0.7202776
Insulin-like growth factor I	0.77270624	0.77270624	0.77270624	0.77270624	0.77270624	0.77270624	0.77270624	0.77270624	0.77270624	0.77270624	0.77270624	0.77270624	0.77270624	0.77270624	0.77270624
Amyloid precursor protein	1.0008913	1.0008913	1.0008913	1.0008913	1.0008913	1.0008913	1.0008913	1.0008913	1.0008913	1.0008913	1.0008913	1.0008913	1.0008913	1.0008913	1.0008913
Phase-1 RCT-185	0.9678744	0.9678744	0.9678744	0.9678744	0.9678744	0.9678744	0.9678744	0.9678744	0.9678744	0.9678744	0.9678744	0.9678744	0.9678744	0.9678744	0.9678744
Connexin	0.9693438	0.9693438	0.9693438	0.9693438	0.9693438	0.9693438	0.9693438	0.9693438	0.9693438	0.9693438	0.9693438	0.9693438	0.9693438	0.9693438	0.9693438
Serpinin	0.9779857	0.9779857	0.9779857	0.9779857	0.9779857	0.9779857	0.9779857	0.9779857	0.9779857	0.9779857	0.9779857	0.9779857	0.9779857	0.9779857	0.9779857
GUS ribosomal protein L6	1.050002	1.050002	1.050002	1.050002	1.050002	1.050002	1.050002	1.050002	1.050002	1.050002	1.050002	1.050002	1.050002	1.050002	1.050002
Calpain I heavy chain	1.2730043	1.2730043	1.2730043	1.2730043	1.2730043	1.2730043	1.2730043	1.2730043	1.2730043	1.2730043	1.2730043	1.2730043	1.2730043	1.2730043	1.2730043
Collagen type II	0.98876497	0.98876497	0.98876497	0.98876497	0.98876497	0.98876497	0.98876497	0.98876497	0.98876497	0.98876497	0.98876497	0.98876497	0.98876497	0.98876497	0.98876497
Phase-1 RCT-178	0.92489386	0.92489386	0.92489386	0.92489386	0.92489386	0.92489386	0.92489386	0.92489386	0.92489386	0.92489386	0.92489386	0.92489386	0.92489386	0.92489386	0.92489386
Voltage-dependent anion channel 2 (Vdac2)	1.0214736	1.0214736	1.0214736	1.0214736	1.0214736	1.0214736	1.0214736	1.0214736	1.0214736	1.0214736	1.0214736	1.0214736	1.0214736	1.0214736	1.0214736
Phase-1 RCT-192	1.0122488	1.0122488	1.0122488	1.0122488	1.0122488	1.0122488	1.0122488	1.0122488	1.0122488	1.0122488	1.0122488	1.0122488	1.0122488	1.0122488	1.0122488
Adrenin nucleotide translocator 1	0.95821226	0.95821226	0.95821226	0.95821226	0.95821226	0.95821226	0.95821226	0.95821226	0.95821226	0.95821226	0.95821226	0.95821226	0.95821226	0.95821226	0.95821226
Thyrosin beta-10	0.9633578	0.9633578	0.9633578	0.9633578	0.9633578	0.9633578	0.9633578	0.9633578	0.9633578	0.9633578	0.9633578	0.9633578	0.9633578	0.9633578	0.9633578
High affinity IgE receptor gamma chain (Fc-gamma)	0.84376024	0.84376024	0.84376024	0.84376024	0.84376024	0.84376024	0.84376024	0.84376024	0.84376024	0.84376024	0.84376024	0.84376024	0.84376024	0.84376024	0.84376024
Gamma-actin, cytoplasmic	1.0041891	1.0041891	1.0041891	1.0041891	1.0041891	1.0041891	1.0041891	1.0041891	1.0041891	1.0041891	1.0041891	1.0041891	1.0041891	1.0041891	1.0041891
Uncoupling protein 2	0.8524129	0.8524129	0.8524129	0.8524129	0.8524129	0.8524129	0.8524129	0.8524129	0.8524129	0.8524129	0.8524129	0.8524129	0.8524129	0.8524129	0.8524129
Phase-1 RCT-34	0.9216589	0.9216589	0.9216589	0.9216589	0.9216589	0.9216589	0.9216589	0.9216589	0.9216589	0.9216589	0.9216589	0.9216589	0.9216589	0.9216589	0.9216589
Phase-1 RCT-31	0.94591683	0.94591683	0.94591683	0.94591683	0.94591683	0.94591683	0.94591683	0.94591683	0.94591683	0.94591683	0.94591683	0.94591683	0.94591683	0.94591683	0.94591683
Cyclin D1	0.84867144	0.84867144	0.84867144	0.84867144	0.84867144	0.84867144	0.84867144	0.84867144	0.84867144	0.84867144	0.84867144	0.84867144	0.84867144	0.84867144	0.84867144
IgE binding protein	0.8789625	0.8789625	0.8789625	0.8789625	0.8789625	0.8789625	0.8789625	0.8789625	0.8789625	0.8789625	0.8789625	0.8789625	0.8789625	0.8789625	0.8789625
Zinc finger protein	1.0155241	1.0155241	1.0155241	1.0155241	1.0155241	1.0155241	1.0155241	1.0155241	1.0155241	1.0155241	1.0155241	1.0155241	1.0155241	1.0155241	1.0155241
Phase-1 RCT-138	1.042673	1.042673	1.042673	1.042673	1.042673	1.042673	1.042673	1.042673	1.042673	1.042673	1.042673	1.042673	1.042673	1.042673	1.042673
Alpha-tubulin	0.8986309	0.8986309	0.8986309	0.8986309	0.8986309	0.8986309	0.8986309	0.8986309	0.8986309	0.8986309	0.8986309	0.8986309	0.8986309	0.8986309	0.8986309
Alpha-prothymosin	0.95090747	0.95090747	0.95090747	0.95090747	0.95090747	0.950									

Phase-1 RCT-68	1.0247414	1.1062487	1.0076649	1.0164758	1.0128443	1.0351826	0.9074085	0.9161144	1.1271183	1.2439942	1.115834	1.1309836	1.2373157
Cylin G	0.975908	0.84216084	0.9028248	0.9431493	0.8214706	0.8399455	0.733873	1.200855	1.1860312	0.838449	0.7587264	1.0321546	1.021546
Hypoxanthine-guanine phosphoribosyltransferase	1.2844359	0.7598425	1.2068825	1.3194538	1.0680366	0.8677289	1.2133519	1.0984195	1.0710654	1.1988468	1.0600398	1.3381767	1.469046
Tissue inhibitor of metalloproteinases-1	1.0256617	1.0637667	0.8853311	0.9052003	0.90892903	0.4495782	1.2678536	1.2969893	1.7725214	1.3189276	1.0786238	0.9658815	0.8922468
ID-1	0.9352789	0.9288919	0.786285	0.7852626	0.7161578	0.60303697	0.8339058	0.7127855	1.0603186	0.842748	1.1216424	1.0753588	0.907598
Ribosomal protein S9	0.9195357	0.919539	0.9285519	1.2878051	1.3812014	1.1815242	1.5445988	0.80099314	0.709850	0.906456	0.68135047	0.7202386	0.7202386
Hemic oxygenase	0.9201754	0.8280282	0.9602325	1.0394047	1.050774	1.0755113	0.9502546	1.0263407	0.95649304	0.850266	0.6451342	0.708528	0.8417156
Ribosomal protein S8	0.972614	1.3226397	1.0485085	0.97354937	1.0957122	1.3986988	1.1503549	1.6132584	0.92988455	0.891706	1.0293382	0.7485257	0.8058668
Ribosomal protein S17	1.0085871	1.3263733	0.9098618	0.86929286	1.0401394	1.8112528	0.96039875	1.3308282	1.78072523	1.462146	0.81920284	1.0161638	0.81920284
Nucleoside diphosphate kinase beta isoform	1.0725971	0.88087654	1.0048156	0.9885634	0.9473552	1.2143591	1.2190339	0.8837857	0.7993507	0.8682885	0.704084	0.8190091	0.8190091
14-3-3 zeta	0.98143436	1.1838872	0.8011881	0.77749436	1.159871	1.209033	1.3701771	1.1200278	1.3179382	1.2542883	1.5649294	1.3278608	1.3278608
60S ribosomal protein L6 (allene clone 1)	1.0375687	1.3189436	1.1288561	0.976948	1.1732289	1.4154205	1.2183633	1.0682631	0.88108716	0.8080235	0.763424	0.9007596	0.9007596
Beta-tubulin, class I	1.0472581	0.6586534	1.0654856	1.1932161	1.3254428	1.1732289	1.4154205	1.2183633	1.0682631	0.88108716	0.8080235	0.763424	0.9007596
Organic cation transporter 3	0.9079131	1.2529693	0.88712903	0.9759409	0.94315875	1.732289	1.4154205	1.2183633	1.0682631	0.88108716	0.8080235	0.763424	0.9007596
Beta-actin	0.8016556	0.61157725	1.285835	1.3602705	1.2320898	1.7272073	1.5402557	1.8383622	1.3069315	1.5712489	1.0837084	1.5020322	2.5021772
Cathepsin S	0.8598919	1.383046	1.1981723	0.93264085	1.0216403	0.917833	1.0724821	1.0241873	1.1320002	0.9817624	1.009767	0.7711089	1.0289283
Biliverdin reductase	1.137489	0.9333647	0.8804063	0.86359197	1.0341108	0.917833	1.0724821	1.0241873	1.1320002	0.9817624	1.009767	0.7711089	1.0289283
Phase-1 RCT-154	1.0796214	0.91120344	0.95262945	0.9108825	1.072816	1.0190043	1.0945841	1.1655646	1.2516011	0.8717518	1.3075413	1.111577	0.82558
Phase-1 RCT-283	0.91979575	0.8696334	0.8802931	0.91976327	1.0190043	1.0945841	1.1655646	1.2516011	0.8717518	1.3075413	1.111577	0.82558	0.82558
Annexin V	1.0575234	0.9053979	0.86142784	1.0373245	1.2310398	1.058758	1.0654687	1.0654687	1.0654687	1.0654687	1.0654687	1.0654687	1.0654687
Complement factor I (CFI)	1.124312	1.0874924	0.9714992	0.98814487	1.0413838	1.0170585	1.1299247	1.0992478	0.6282446	0.7410473	0.8830865	0.7455818	0.6211877
Transverse aminotransferase	1.2959035	1.3298771	1.0234476	0.9625874	0.91242623	1.8982783	1.388241	1.064546	0.48061627	0.7401934	0.6800538	0.6768891	0.5420535
Glutathione peroxidase	1.1607954	1.2789958	0.97701627	1.0777937	1.0558689	2.209182	1.843303	1.4987365	0.62940043	0.8765597	0.8686441	0.68827294	0.87589036
Histidine-rich glycoprotein	0.7468153	1.1900531	1.3018405	1.2900843	1.0104455	1.3248781	1.7898003	1.455103	0.81582	1.1373389	0.8433559	0.8576844	0.7419837
Carbonic anhydrase III, sequence 2	0.77133447	1.1774555	1.3735047	1.2500045	0.8800258	1.2887088	1.6940872	1.3597285	0.7007298	1.000286	0.62545525	0.72649175	0.7074983
Phase-1 RCT-62	0.87899787	0.8386039	1.1208472	1.258452	1.221912	1.2236814	1.349964	1.3778185	0.6332188	1.0731468	0.8027028	0.7454977	0.7277467
Transitional endoplasmic reticulum ATPase	1.0306814	0.9265487	0.8634756	1.02751975	0.8117549	0.4594925	0.89059405	0.555198	0.7298174	0.7764758	0.78098773	1.0063434	0.90543765
Phase-1 RCT-48	0.755934	1.1694963	0.4302986	1.0316344	1.4294089	1.3335036	2.3346848	1.6112038	0.84849	0.8251805	0.8349335	1.0362914	0.8655333
Phase-1 RCT-161	0.869137	0.3489271	0.9236227	0.9722055	0.90551748	0.9071568	1.2274698	0.9784096	0.78911708	1.088706	0.76098773	1.0063434	0.90543765
Glutathione S-transferase theta-1	0.95718778	1.1893188	1.2147855	1.0707559	1.1003838	1.2500914	1.2126415	1.1744128	0.9248717	0.8811186	1.0784423	1.3632368	0.99872088
Phase-1 RCT-168	0.9266288	1.1013832	1.0374861	0.9276539	0.8724169	1.3805918	0.9202857	1.1428938	0.87571926	1.0721985	0.78098773	1.0063434	0.90543765
Phase-1 RCT-182	1.1463608	1.356761	1.273815	1.0709795	0.8851773	1.038872	1.0962458	1.0578736	0.9762964	1.0721985	0.78098773	1.0063434	0.90543765
Adiponectin	0.84360914	1.0153191	1.1681291	1.132824	1.0943575	1.173966	1.0975692	1.145412	0.821971	0.8437587	0.9230817	0.9946584	0.9461369
Phase-1 RCT-83	0.8914381	0.9613787	1.2850245	1.4781702	1.0214087	1.043575	1.3221693	1.5965574	0.33948315	0.76692487	0.111551	1.169575	1.1418105
Phase-1 RCT-178	1.3540152	0.78534013	0.9333253	0.83651854	0.48638428	0.45830035	0.5428145	1.1561671	0.76687766	0.80649524	0.7821947	0.96567154	0.7762855
Adiponectin CII	1.0680707	0.785238	1.1693285	1.1413051	0.99445033	0.87303567	1.0783594	1.1561671	0.76687766	0.80649524	0.7821947	0.96567154	0.7762855
Phase-1 RCT-98	0.83005085	0.8135322	1.0389802	1.013246	0.8646019	0.8313986	0.85225195	0.8408684	0.8739877	0.932353	0.9394088	1.8184929	1.3892408
NADH-oxochlorine b5 reductase	1.257724	0.77141466	1.4028802	1.2928832	1.028146	1.629108	1.502428	1.502428	1.0154248	0.8181292	0.8822176	1.253259	1.1893883
Alpha 1 - inhibitor III	0.94804174	0.6894434	1.1248008	0.7530846	1.1208439	1.2511894	0.788457	1.0154248	0.78845697	1.2718539	0.89125216	1.8277853	0.8323885
Paraoxonase 1	1.0536338	0.92714288	0.84930448	1.0332477	1.1303875	1.023687	1.2623356	1.048698	0.78945897	1.2718539	0.89125216	1.8277853	0.8323885
Prasadin-1	0.9426221	0.88646894	1.172843	1.1120678	1.2485528	1.6596335	1.0943553	1.6095389	0.48110813	0.70513844	0.83126557	0.72819377	0.47086808
Apolipoprotein C1	1.002863	0.9290003	1.368703	1.0589885	0.9271419	1.0847304	0.8912359	1.403748	0.8502043	0.66327216	1.2118846	1.3945303	0.8596056
Cytochrome P450 2C23	0.8632489	1.3367099	0.94276963	0.92478409	0.9541436	1.1242374	0.9763322	1.4652312	0.81316507	0.8272797	0.92464995	0.7854656	0.8844726
Phase-1 RCT-227	0.9632665	1.0354233	1.203295	1.0980864	0.93063428	1.3008263	0.9652505	1.4617512	0.98694136	1.1154537	1.1470227	0.81520685	0.8844726
Haptoglobin	1.0226395	0.4820003	1.1377639	1.1900743	1.090226	0.9169933	1.1281915	1.0897715	0.592111	0.8671443	0.8833828	1.2955609	1.0476605
Phase-1 RCT-184	1.0270288	0.9265081	1.0273719	0.95896253	0.95896253	0.90437895	1.0186917	1.2043636	0.85880727	0.8356723	0.80861205	0.7676912	0.80793144
Mitochondrial protein-2	1.0074447	1.121206	0.7261847	0.96575994	0.80859435	0.7906571	0.85471718	1.1311151	0.82806516	0.874259	1.5471186	1.494282	1.5471186
Inulin-like growth factor I, exon 8	0.8548319	0.5789639	1.2925717	1.1359165	1.0329089	0.8405347	1.3595078	1.4050672	0.3595078	1.083278	1.3781426	2.514955	1.9484282
N-Hydroxy-2-acetylaminofluorene sulfotransferase (STC1)	0.7878133	0.5622116	1.041808	0.9841701	1.1540787	1.1667142	0.9110386	1.324219	0.57286234	0.58147357	0.8147357	0.5178471	0.4375308
Dynamin-1 (D100)	0.9334482	0.86403215	1.182977	1.0817614	1.0112854	1.0458186	1.2497054	1.1079288	1.0890479	1.273531	1.0948818	0.9927925	0.9802714
DNA polymerase beta	0.9383477	0.8648867	1.099221	1.0997407	1.1790401	1.1342585	1.1652769	1.2014688	0.5558108	0.5761695	0.6449137	0.54154	0.5267847

Table 30

Phase-1 RCT-173	1.0929436	1.1953342	0.6763724	0.8657235	0.8458616	0.78841508	1.0756235	0.9421376	1.0117295	0.9951286	0.9383244	0.957581	1.0429658
Ubiquitin conjugating enzyme (RAD 8 homologue)	0.9506218	1.0316295	1.0200616	1.0158828	1.2576232	1.010601	1.0319165	1.3948337	0.77206075	0.9951286	0.9383244	0.957581	1.0429658
Ribosomal protein L13A	0.9903904	1.2904928	1.0689436	0.9183044	0.9043079	1.1720923	1.1090939	1.2660726	1.6335803	1.3975661	1.285034	1.0661944	1.3550946
Phase-1 RCT-144	1.151601	0.8798892	0.7680996	0.8912505	1.0471332	0.8092386	0.8513565	0.9927374	0.9927374	1.0225378	1.0225378	1.0225378	0.9327523
C-H-ras	0.9039095	1.2324426	1.034875	0.766245	1.018783	1.2128017	1.0702139	1.1055426	1.5174942	1.05858	1.1980947	0.9823877	0.9488818
Vesicular monoamine transporter (VMAT)	1.1387581	1.1480407	0.8107876	0.8502917	0.8234393	0.6092797	0.63682455	0.5051228	0.64901315	0.9502435	1.0095565	0.789795	1.0115222
Phase-1 RCT-230	1.0440537	1.0490493	0.9695519	0.882055	0.8303048	1.07048	0.89311755	0.7068811	0.7068811	0.9025358	0.813379	0.813379	0.9025358
Phase-1 RCT-273	1.0424255	1.047841	0.8037833	0.8097687	0.8028523	0.8153795	0.80572724	0.6712488	1.2828422	1.1635735	0.8258457	0.9142418	0.8307282
Phase-1 RCT-74	0.89450916	0.9511952	0.8137845	0.8218334	0.7314288	0.74918455	0.8031356	0.7170701	1.1212586	0.8607602	0.8607602	1.2954668	1.2458468
Phase-1 RCT-80	1.0373298	0.8262343	0.75404874	0.84409285	0.7191585	0.49893604	0.52746034	0.42911285	1.1422623	0.9200924	0.8888863	0.82745075	0.86678417
Phase-1 RCT-158	1.0437828	1.0657498	0.8455753	0.71460307	0.7126881	0.4477178	0.7075984	0.62728594	0.8538227	0.8200924	0.8888863	0.82745075	0.86678417
Deoxyxylidase kinase	0.9847535	1.3911669	0.69576865	0.78359555	0.57601928	0.5741494	0.5040063	0.6211178	0.8078487	0.89514376	0.8986779	0.8236119	0.8236119
Inositol polyphosphate multikinase (IpMK)	1.1097759	1.044571	0.869413	0.83909215	0.9712557	0.7093334	0.70077413	0.5696828	1.1014438	0.8805843	0.8236119	0.8236119	0.8236119
Neuronal cell adhesion molecule (NCAM)	1.0985524	1.1552904	0.8472847	0.9344101	0.7724276	0.5860473	0.59717655	0.4500072	1.4049174	1.070978	1.4235246	0.866316	1.3118813
Neurotrophin growth factor receptor	0.912337	1.0919375	0.75514984	0.7909001	0.8112965	0.63384614	0.71690138	0.6988836	0.8776552	0.8505459	0.8927421	0.5859477	0.69348055
Enkv	1.2383223	0.9481708	0.71650815	0.9637261	0.6389048	0.3932229	0.5490136	0.6988836	0.8776552	0.8505459	0.8927421	0.5859477	0.69348055
Dopamine receptor D2	0.91758424	1.0688014	1.1288776	0.99327105	0.8423516	1.0376074	0.717495	0.91884814	0.7782905	0.92602897	1.0337011	1.566027	1.2188352
Phase-1 RCT-51	1.1216084	1.2764157	0.9288092	0.9281629	0.9345056	0.8927864	0.7485346	0.6978371	1.1926165	1.1183248	1.1867869	0.8234445	0.7215474
Four repeat ion channel	1.0984821	0.9321443	0.8378926	0.94028568	0.84883595	0.8638932	0.841983	0.7481159	0.8832525	0.5908822	0.7888378	0.7852765	0.8572803
Adrenomedullin	0.88726646	1.0187354	0.7991801	0.7784185	0.72570527	0.48632413	0.35960956	0.43738618	0.8844217	0.8656974	0.8188598	0.8620369	0.8285823
Caveolin-3	1.1272727	0.988612	0.852927	0.8659703	0.7840585	0.8065294	0.7899287	0.848837	0.8844217	0.8656974	0.8188598	0.8620369	0.8285823
Phase-1 RCT-129	0.97034454	1.0733023	0.873758	0.9114183	0.8816788	0.61336786	0.58884795	0.45815372	0.847071	0.83932585	0.8391607	0.8321862	0.8321862
Phase-1 RCT-84	1.0761821	1.0140477	1.0537896	0.9803626	0.84225705	0.75757426	0.93621176	0.779914	1.1838553	1.0424013	1.1108382	1.0000618	0.8668041
Sarcolemmal reticulum calcium ATPase	1.1048536	1.2398212	0.7767752	0.9020266	0.8054289	0.7985292	0.6655023	0.5874282	0.8316159	0.85848945	0.8395693	0.8518403	0.70846304
Phase-1 RCT-79	1.0655485	1.1044827	0.8851334	0.929789	1.0209735	1.0533371	0.9218101	0.9391303	1.2777705	1.0332048	0.89768237	0.8619828	0.9048735
Phase-1 RCT-151	1.3054828	1.4805549	1.3878107	1.5103364	1.4458624	1.582094	1.3081772	1.806033	1.0736935	1.2212594	1.3622112	1.3387156	1.3387156
Phase-1 RCT-70	0.8646334	0.93851134	1.2455977	1.220766	1.1477699	1.1298598	1.3158205	1.3222811	1.07606	1.2584212	1.0689184	1.0650002	1.5237895
Phase-1 RCT-150	1.2681221	1.138845	1.2715904	1.1109089	0.85135533	0.8608721	0.9198619	0.96565727	0.8041842	0.8145287	0.97533397	0.91659776	0.8695302
28-hydroxyvitamin D3-1 alpha-hydroxylase	0.8796783	0.9750084	1.316284	0.66008885	0.6032083	0.44700158	0.59572697	0.56344245	1.3160334	1.273342	0.78378827	1.395339	1.17773
Phase-1 RCT-118	1.2812715	1.4639993	1.2806688	1.4231596	1.3485521	1.3869551	1.2304329	1.008458	1.008458	1.3548298	1.6487688	1.7884314	1.631078
Pantothenate 3-ketoadipyl-CoA thiolase 2	1.2437271	1.2767972	1.3612028	1.1638541	1.0428576	1.4888884	1.7698917	1.318787	1.853188	1.6007047	1.5657765	2.0770254	2.388041
Phase-1 RCT-146	1.1216372	0.94090116	0.9052334	0.9263146	0.86318034	0.67482426	0.9236684	0.7639483	1.13851	1.0848345	0.99561137	0.98901397	0.932836
Superoxide dismutase Mn	1.1055785	0.9090878	1.0501142	1.1509815	1.020537	0.46896783	1.2420714	1.4487889	2.1168458	1.3065054	1.07055	0.8830745	1.1008889
Phase-1 RCT-115	1.2022882	1.1684269	0.8007443	0.82830036	0.8219888	0.83147819	0.78717947	0.6068915	1.4138889	1.3248555	1.0619855	0.8247751	0.9801185
Alpha-1 microglobulin/bikunin precursor (Ambp)	1.0553844	1.0075696	1.309138	1.2299662	1.1759246	1.2644727	1.1695609	1.595321	0.84121884	0.8851407	0.97885405	1.0083066	1.0017376
Phase-1 RCT-18	1.0614014	0.88593116	0.8133482	0.899877	0.84881943	0.7789029	0.8348345	0.63296765	0.84240415	1.0310903	1.147552	1.1832576	1.1665549
Masspin	1.0006512	1.1326327	0.70717466	0.7416643	0.7030087	0.5214419	0.5607987	0.43492183	0.5991913	0.72490086	0.88182724	0.89171388	0.95801257
Decorin	0.9874561	1.6561749	0.7785825	0.8544032	0.7804724	1.1117791	0.94237095	0.801643	1.2596266	1.0449852	0.7440512	0.85643363	0.71875536
Retinoid X receptor alpha	1.0117213	1.1125053	0.74512468	0.76403994	0.7571999	0.5289519	0.7193963	0.57638997	1.3541282	1.2984206	0.8934974	1.0533887	1.1798888
Cellular nucleic acid binding protein (CNEP)	0.80328168	0.9625547	0.82452528	0.64545438	0.9946383	1.185166	1.012442	1.1418208	1.2765658	1.3339355	1.132881	1.0423511	1.544057
NADPH cytochrome P450 oxidoreductase	1.2859615	1.0381535	0.8404747	1.0047662	0.8294338	0.86215466	1.2095521	0.88571453	2.3438286	1.283408	1.30055	0.8324445	1.4023287
Malic enzyme	0.86689713	0.8448037	0.8208502	1.0566076	1.0648317	0.84227176	1.084177	0.7438758	0.6504022	1.2512875	1.0812892	1.4043353	1.389287
Caspase-1	1.0460287	0.7753337	0.6901801	0.66550556	0.64040124	0.4500871	0.827227	0.54272825	1.028149	0.925042	0.83038874	1.094771	0.77904253
Glycylalanyl C	0.8840182	1.305763	1.0190334	1.0073808	1.0566552	1.1930461	1.3474911	1.3913218	0.878246	0.8039421	0.7685951	0.75428396	0.7280702
p53COC	1.0464994	0.9041542	0.8615635	0.8545544	0.89039576	0.59868517	0.7725676	0.5744194	0.87234044	0.8685102	1.0827497	1.3310878	1.0144697
Poly(ADP-ribose) polymerase	1.2161178	0.92018905	0.91418333	0.86372884	0.81019974	0.82213336	0.9020714	0.7391129	1.2570182	1.2958785	1.1662009	1.2624797	1.3923514
Tissue plasminogen activator	0.98470285	0.545482	0.9774684	0.96920765	0.86668775	0.8675138	0.86668775	0.65165746	0.7850498	0.859322	1.1759537	1.084984	1.0941912
Multidrug resistant protein-1	0.9745482	1.1220059	0.82150996	0.9007806	0.8759368	0.8379168	0.880262	0.7493398	1.465797	1.632828	1.048808	1.608448	2.2682688
Phase-1 RCT-207	1.15841	1.0431028	0.8285792	0.8247715	1.0709904	0.866621	1.0031072	0.857376	1.1393545	1.142051	0.9087128	1.068331	1.1804184
Phase-1 RCT-181	1.123718	1.2649677	1.2847123	1.080941	1.097426	1.5076785	1.15043	1.3004628	1.1	1.0439457	1.0076227	0.8573988	0.8868824
Gap junction membrane channel protein beta 1 (Gj1)	0.78381028	0.978082	0.8524975	0.8614093	0.70173454	0.8449891	1.2726886	1.2105608	1.0653778	0.95280375	1.0058433	1.5589992	1.5384856
Aquaporin-3 (AQP3)	1.0041261	0.982564	0.9388656	1.0083629	0.8272347	0.752017	0.8131149	0.69612336	0.9968846	1.0529689	1.06555448	0.89555655	1.0711558
Myelin basic protein	0.9694349	0.9333465	1	0.92193294	0.8544151	0.88134223	0.9146073	0.9606793	1.1186091	1.077372	1.002258	1.2511829	1.0923484
Calgranulin B3	1.0698605	0.99071074	0.8544627	0.81946356	1.0137887	0.8585514	1.0158228	0.9827768	1.165072	1.1004846	0.82808666	1.188935	1.1874337

Table 30

Phase-1 RCT-156	0.88913226	0.97993904	1.0628765	1.166371	1.0607066	1.0753598	1.1165774	1.2155776	0.81754094	0.8660827	0.9578367	1.1086513	1.025024
Proteasome activator 28 alpha	1.0299863	1.1651612	1.0516393	0.89906655	0.9541479	1.4470261	1.0177208	1.1904894	0.9647846	1.0198134	0.90878756	0.8000342	0.75129265
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 h: yes=naec, necrosis observed; yes=both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 26)													

Table 30

Table 30

[illegible]

Phase-1 RCT-68	1.131174	1.2067208	1.1530347	1.0702885	0.97308487	0.9851946	1.0058945	1.0786638	0.9824663	0.9798814	1.0528821	1.0203846	1.0251151
Cytin G	1.2539934	4.5148763	0.9642028	1.7405057	1.6237637	2.174272	1.145204	1.1232311	1.1584087	1.0313311	1.058146	0.96947217	1.1536936
Hydroxanthine-guanine phosphoribosyltransferase	1.6557747	1.0344555	0.91694236	0.9804955	1.198215	1.063814	1.1188276	1.0930597	1.09878526	1.1343545	1.1225835	1.0134984	0.9240628
Tissue inhibitor of metalloproteinases-1	0.9027147	1.1491008	1.1942402	1.1484313	1.2812355	1.1108104	1.2563466	1.2317134	1.0989803	1.2504544	1.170394	1.5331633	1.6432718
ID-1	1.0273376	1.1173414	1.954865	0.89172703	1.1324303	1.07685	1.1404313	1.1300515	1.2850647	1.2406622	1.1518614	1.1211462	0.8309653
Ribosomal protein S9	0.6009843	0.9585394	0.9807387	1.0404313	1.0863437	1.043815	1.0404313	1.051549	0.8443036	0.839428	0.8355011	0.854371	0.81878424
Heme oxygenase	0.8348662	0.6515168	0.811832	1.0972674	0.7239071	0.2740924	0.2740924	1.0051638	0.85919213	1.4941287	1.1594455	1.2341359	1.212103
Ribosomal protein S8	0.7508855	0.9130253	1.063887	1.076859	1.0728333	0.9038856	0.8443019	0.8887519	0.8039578	0.7431343	0.8851135	0.8504044	1.0054064
Ribosomal protein S17	0.8643263	0.890869	1.0431285	1.0616877	1.1004155	0.9279804	0.72199	0.79450228	0.6856877	0.7487196	0.8571934	0.9221801	
Phosphatidylcholine transferase	0.8702327	0.9791521	0.9163883	1.0542846	1.1322806	0.9377444	1.06165	0.8876292	1.0326612	1.0326612	0.8876292	1.0326612	1.055046
Nucleoside diphosphate kinase beta isoform	0.7716864	0.8413534	1.165737	0.9101036	0.6704568	0.78731585	1.3171131	1.04874	1.236554	0.707089	0.8652605	1.165069	0.9098716
Phase-1 RCT-121	1.0825241	0.6331554	0.9063475	1.0202873	1.0058605	0.615413	1.2368373	1.226684	1.4380044	1.262808	1.2563125	1.171941	0.8049418
14-3-3 zeta	1.2176965	0.8761747	1.018527	0.95763037	1.0378847	0.8888153	0.9341015	0.92622195	0.8602785	0.932013	1.053178	1.0348081	1.0744068
60S ribosomal protein L6 (alternate clone 1)	0.8339337	0.7040052	0.65838313	1.2305417	1.4083989	0.8470913	1.434968	1.2262318	1.0499283	0.9871375	1.1816227	0.98548576	1.1240833
Beta-tubulin, class I	0.919661	1.1004934	1.1000855	0.95017093	0.8810325	0.8869257	0.9863742	0.9381058	0.8824397	1.2534969	1.0936893	1.0776142	0.80303314
Organic cation transporter 3	1.790281	0.6332651	0.80807814	0.9520429	0.7971788	0.90041953	1.0866628	1.0317171	1.0713162	0.8696831	0.87213945	0.82056704	0.7010646
Beta-actin	0.7716864	0.8413534	1.165737	0.9101036	0.6704568	0.78731585	1.3171131	1.04874	1.236554	0.707089	0.8652605	1.165069	0.9098716
Cathepsin S	0.8025396	0.85972095	0.9688	0.9758207	1.0025079	1.149612	1.1565095	1.2131915	1.18346	1.0727723	1.0841044	1.1548634	0.857626
Bilirubin reductase	0.93150353	1.6071781	0.8985516	0.988833	1.1784314	1.258482	1.0729707	1.0543393	1.5428135	1.7016653	0.980823	1.0320558	0.8797327
Phase-1 RCT-154	0.8714872	0.83339549	0.9875256	0.8974085	0.9960578	1.0307274	0.978684	0.9866485	0.9035178	1.0815789	1.0157541	1.1558373	1.2325428
Annexin V	0.8200424	0.9315673	0.8978122	0.972618	0.8868605	1.0157284	1.0552474	0.978684	0.9139581	0.7842762	1.0576888	0.8155306	0.878928
Complement factor I (CFI)	0.7522709	1.4982016	1.5795404	1.0675992	1.0992205	1.0474553	0.7289937	0.7553384	0.7608604	0.7823455	0.7973687	1.0323981	1.5285076
Phase-1 RCT-276	0.5911197	1.0033212	1.0846745	0.90858406	0.9572055	1.0321404	0.7762138	0.8028705	0.7734639	0.8004484	0.811806	0.8193951	0.8606965
Tyrosine aminotransferase	0.68929005	1.4551281	0.811867	0.6207599	0.8624698	0.8259102	0.76084685	0.74464804	0.617814	0.6788321	0.84249856	0.7028334	1.1251333
Glutathione peroxidase	0.7606451	0.73526186	1.0727704	0.6544653	0.9232768	0.6975322	0.64163539	0.7807621	0.8269325	0.71487427	0.87722594	0.7642844	1.1214731
Histidine-rich glycoprotein	0.8508734	0.99238936	0.8529598	0.698088	1.1557374	0.95104504	0.74108833	0.711471	0.5758847	0.6533731	0.9984049	0.94907254	0.78312134
Carbonic anhydrase III, sequence 2	0.80316705	1.0076284	0.86487945	0.860886	0.7286585	0.9720888	0.7106564	0.7024112	0.54021746	0.67191875	0.8792584	0.9745663	0.99144223
Phase-1 RCT-92	0.80023325	1.1609281	1.1225272	0.858884	1.0044701	1.0313933	0.7728971	0.871428	0.8393328	0.9786111	0.9789141	0.8933263	0.94984874
Transitional endoplasmic reticulum ATPase	0.89025116	0.94507825	0.9420495	1.1043353	1.134708	0.9095718	0.9808199	1.1286395	0.9040257	0.7752866	0.9421601	0.9863507	1.088009
Phase-1 RCT-88	0.85428414	0.9013882	1.0038286	0.8281452	0.924708	0.98893147	0.9689366	0.8279072	0.6937186	0.72755035	1.0232421	0.85831317	0.8051984
Phase-1 RCT-296	0.82991173	0.5722006	0.3800804	0.6970166	0.8912073	0.767586	0.74913937	0.7574305	0.8729156	0.8895823	0.80934876	0.7963633	0.8878326
Phase-1 RCT-181	0.88541343	0.5722775	0.7287635	1.1508103	1.084225	1.2054623	0.76059175	1.1574305	0.8729156	0.747766	0.75947638	1.0921286	0.8364811
Glutathione S-transferase theta-1	0.81850456	0.88728015	0.75801605	1.2502565	1.0643329	0.95071383	1.137063	0.8233455	0.8401468	1.0542271	1.1357182	1.0091138	0.9876088
Phase-1 RCT-188	1.086602	0.9765564	1.0514191	0.7662099	1.160435	1.0778074	0.82515707	0.723692	0.7957155	0.8957844	0.825537	0.83987416	0.82137454
Phase-1 RCT-182	0.76648275	0.97400734	1.1060268	1.1803956	1.072028	0.885785	0.99510376	0.723692	0.7957155	0.8957844	0.825537	0.83987416	0.82137454
JNK1 stress activated protein kinase	0.55782764	1.3835708	1.1870356	1.3321251	1.0617493	1.3050778	0.8081523	1.0174044	0.8792163	0.7572866	0.9421601	0.9863507	1.088009
Phase-1 RCT-81	0.8308981	0.9318418	0.95309424	1.0348674	0.96597175	0.98131007	0.7887504	0.8524884	0.81988355	0.7464432	0.8136552	0.8336508	1.0768786
Phase-1 RCT-33	1.2280055	0.78550036	1.1182579	0.800114	0.9499743	1.0281783	0.959888	0.9672343	1.073124	1.2744461	1.110119	1.1115837	1.1876098
Phase-1 RCT-178	0.6846035	1.0814548	1.0787522	0.92587346	0.8940011	0.9689999	0.91648066	1.5699549	0.809707	1.3597636	0.8871184	1.182261	0.8258484
Apolipoprotein CII	0.6345982	1.3020456	1.1004078	1.028612	1.2384449	1.1380144	0.99946	1.2352805	0.7963184	1.5180202	1.3591781	1.1804477	0.8667428
Phase-1 RCT-98	1.2760043	1.0712806	1.0484035	0.9596833	0.8693963	0.9625843	0.8992525	1.1390287	0.97551895	0.9327056	0.9330033	0.74957633	1.0460153
NADH-cytochrome b5 reductase	1.178955	0.9962897	1.1360167	0.9152659	1.0551381	1.172808	0.94921666	1.1390287	0.97551895	0.9327056	0.9330033	0.74957633	1.0460153
Alpha 1 - inhibitor III	0.86119886	0.9662281	1.1845598	1.0131819	1.2574339	1.0784715	0.7825517	0.95253015	0.85845107	0.8945501	1.0414444	0.8898511	1.1859905
Phase-1 RCT-233	0.69551567	0.5435456	0.9548319	0.82047024	0.8091533	0.91163015	0.73536223	0.80039714	0.7640103	0.5735722	0.7488089	0.84113846	0.9878377
Paraoxonase 1	1.060371	0.39001957	0.53276515	1.015062	0.9073956	0.8695355	0.79177646	0.8403966	0.8003035	0.38544223	0.7789034	0.821778	1.1132132
Preseitin-1	0.3613508	0.89795944	1.107757	1.080104	0.9438011	1.1849258	0.8602634	0.78121125	0.75707014	0.62019485	0.79192715	0.86238068	0.8983728
Apolipoprotein C1	0.8913941	0.98810744	1.3112999	1.0025927	1.0532854	0.83622473	0.8833555	0.8507431	0.84780663	0.72309476	0.7749894	0.8826123	1.1488648
Cytochrome P450 2C23	0.877337	0.6307741	0.83027476	0.85281023	0.8281875	1.4431889	0.62456024	0.8048629	0.7306776	0.62500625	0.6572302	0.8640705	1.4124557
Phase-1 RCT-227	0.9544236	0.445822	0.506307	0.6927836	0.7120589	0.787928	0.9243546	0.84973603	0.7688718	0.8020776	0.85060986	0.8107191	1.0134136
Hepatic lipase	0.74904484	1.5542841	0.8148999	1.1766024	1.0593401	0.948631	1.0061692	1.1829319	0.89711573	1.1829319	1.059326	0.89852735	0.98552735
Phase-1 RCT-184	1.350147	0.8602737	0.982227	1.4528156	1.2765114	1.1861275	1.2755394	1.1055968	0.8711573	1.1521001	0.9448585	0.97419757	0.7588685
Multidrug resistant protein-2	1.8607165	0.80086787	0.8080932	1.7890932	0.7734144	0.78440005	1.1516338	1.5192351	0.9140973	0.9594874	1.0930792	0.900346	0.9435494
Insulin-like growth factor 1, exon 8	0.4997667	0.24251516	0.740023	1.045023	0.6228173	0.7823675	0.8657607	1.1062626	0.7114425	0.932791533	1.2160424	0.8281893	
N-hydroxy-2-acetylaminofluorene sulfoxidase (STC1)													
Dynamin-1 (D100)	0.9068612	1.0457865	1.0359335	0.922524754	0.98992526	0.92052877	0.8988914	0.9803608	0.8349684	0.8043146	0.9262762	0.9725013	1.1697279
DNA polymerase beta	0.5658899	0.8902088	0.8707441	0.87101516	1.0331366	0.98597377	0.8545055	0.89730585	0.8586738	0.7472458	0.9479275	0.91563918	0.9285508

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Phase-1 RCT-173	0.9918989	0.84376767	0.7948872	0.967313	1.2230926	0.83892804	1.2271923	1.5148808	1.310106	1.3240677	1.031273	1.2627386	0.78852004
Ubiquitin conjugating enzyme (RAD 6 homologue)	0.6448802	1.0160138	0.95207766	1.0563993	1.0078319	1.0030812	0.9885704	0.9760462	0.9373851	1.00141	0.96355456	1.026611	0.8535452
Ribosomal protein L13A	1.2000957	0.7102276	0.75035554	0.8126704	0.84428275	0.78677577	1.2804015	1.202483	1.2459906	1.3866826	1.2264622	1.254413	1.0101775
Phase-1 RCT-144	0.89174616	0.8721893	0.91480313	0.85813924	0.9061112	0.9081757	1.048176	1.20296	1.03398	1.0871491	0.9817022	0.94910115	0.84380754
c-H-ras	0.8813393	0.9444784	0.9070695	0.9005063	0.8706747	0.8851755	0.8304117	0.88357514	0.9035408	1.087437	1.0532024	1.122163	0.968065
Vesicular monoamine transporter (VMAT)	0.91665014	1.4281339	1.0118891	1.3628063	0.93271637	0.975552	0.7998697	0.87700465	0.97374108	1.1889504	1.0912193	1.0380503	1.11314
Phase-1 RCT-273	1.5044357	1.024226	0.98941416	1.1943201	1.0058334	1.0461745	1.0792998	1.0578459	0.9870295	1.3565598	1.0136758	1.0380598	1.2969216
Phase-1 RCT-230	1.550924	0.6616602	0.786887	1.100251	0.91216063	0.93521484	1.1342637	1.1564318	1.3820398	1.0917063	1.0846314	0.998303	0.998303
Phase-1 RCT-74	1.3734237	1.2219793	1.086512	1.226753	1.0085928	0.8400375	1.1575801	1.197324	1.1105489	1.1866032	1.0552747	1.0518601	0.9821108
Phase-1 RCT-80	1.060416	1.1570259	1.075662	1.2538731	0.7413942	0.8382842	1.1120284	1.1107833	0.95377004	1.3533706	1.0163708	1.130221	0.9810921
Deoxyribosyl kinase	0.9206581	0.84000105	1.0382578	0.95930713	0.98453294	0.8085285	1.114682	1.0787584	1.3184736	1.2676175	0.9519828	1.0738997	0.9235282
Inositol polyphosphate multikinase (Ipmlp)	0.7611672	1.427285	1.280158	1.2013688	0.9336226	1.1194558	1.0860793	1.0679104	1.0854478	1.4654478	1.1512971	1.0983377	1.1361107
Neuronal cell adhesion molecule (Nrcam)	1.1489974	1.1121787	0.94391155	1.3728158	0.96078175	1.0392489	1.0297005	1.0671755	1.02713096	1.4118607	0.82324007	1.1074896	1.0153747
Neuronal cell adhesion molecule (Nrcam)	1.2744156	1.3911322	1.3609712	1.3556106	0.98078175	1.2910294	1.2124584	1.2340717	1.1329991	1.7619421	1.0809247	1.2770205	0.95437354
Hepatocyte growth factor receptor	0.7679553	1.0067781	1.1784058	1.2700106	1.1458827	0.8801301	1.0181377	1.0353161	1.0801752	1.1594852	1.1182726	1.120872	1.012018
Empty	1.0718068	1.1873058	0.98874246	1.1215959	0.91223866	0.94738334	1.4732691	1.5083389	1.0935992	1.6437294	1.0201893	1.0094267	0.9281148
Dopamine receptor D2	1.1789442	1.1774334	0.929183	1.2145463	0.86989167	1.0298872	0.94813883	1.027237	0.90187216	0.7007183	0.93413794	0.92060614	1.0576689
Phase-1 RCT-51	1.192184	1.3217887	1.1747984	1.2258068	0.8416891	1.0841242	0.97425134	0.9860396	0.923803	0.97180088	0.9416178	0.8736144	1.1042428
Four repeat ion channel	0.734738	0.98835154	0.8915488	1.0704885	0.8516864	0.901418	0.9518161	1.0060996	0.89247786	0.94028884	0.86058207	0.9271146	0.8607537
Adrenomedullin	0.6688355	1.4675817	0.7963286	1.4602786	0.739044	1.059397	1.0401658	1.0170588	0.8758973	1.4053328	0.91289973	0.926124	0.9742067
Caveolin-3	1.1013538	1.135348	1.1420649	1.048384	0.9564208	0.83835338	1.0679153	1.0009713	0.9528745	1.2188941	0.9668978	1.0248942	0.9422112
Phase-1 RCT-129	1.0647491	1.178504	1.095206	1.0428271	0.98387556	1.0030878	0.9938159	1.0211622	0.9751607	1.1923228	1.060986	1.0851582	1.0424882
Sarcolemmal calcium ATPase	0.96682127	1.2629675	1.0713195	1.3330921	0.8538076	1.1220438	1.1204333	1.1805944	1.1596048	1.0859425	0.9825423	1.0366815	1.0366815
Phase-1 RCT-79	1.447911	1.1213571	1.0604285	1.154928	0.93565404	1.093368	1.0247235	1.0313805	1.0986817	1.1300813	1.09605	0.9536577	0.957282
Phase-1 RCT-252	1.2739732	1.600134	1.2020537	1.1396049	1.0951732	1.0997089	0.89717513	0.98612145	1.0433177	0.7213442	0.94939214	0.8336971	0.912833
Phase-1 RCT-161	1.294545	0.7704085	1.1309174	1.1652548	1.2974113	1.081982	1.0859336	1.3925475	1.3414444	1.1659045	1.133873	1.1867648	1.043068
Phase-1 RCT-70	1.5265485	0.97608378	1.0092011	1.015031	1.081982	1.0859336	1.3925475	1.3414444	1.1659045	1.133873	1.1867648	1.043068	1.043068
Phase-1 RCT-150	1.102915	1.0988777	0.9885188	1.037941	1.117338	1.1717665	1.1208013	1.1547896	1.013249	1.0805985	1.0067703	1.1867648	1.043068
25-hydroxyvitamin D3-1 alpha-hydroxylase	1.002469	1.0041991	0.9884257	1.094385	1.238368	1.0607567	1.4753537	1.3537247	1.2237674	0.9898973	1.0281103	1.1371837	0.991875
Phase-1 RCT-119	1.5450387	1.428825	1.224233	1.163386	0.8749584	1.0822263	0.8922862	0.9818378	0.94459337	0.77376884	0.9351477	0.8280927	0.9868964
Paroxysmal 3-ketoadipyl-CoA thiolase 2	2.1004007	0.7643786	0.8453533	0.7759175	1.1537603	1.0235225	1.0766294	1.5028997	1.3313035	1.3127163	1.4983813	1.3221091	1.0512481
Phase-1 RCT-146	0.9808797	1.027553	1.1039728	1.0772121	1.053468	1.1627086	1.1001357	1.0400429	1.071872	1.2046663	1.0714042	1.2168474	0.96505079
Superoxide dismutase Mn	1.0682863	0.825608	0.7303486	0.84856397	0.9799485	1.0036833	1.2586926	1.2849411	1.166982	1.1716781	1.3808808	1.3368464	1.240112
Phase-1 RCT-115	1.1028341	1.1413223	1.0392129	1.1505951	0.92769885	1.1020787	1.3178125	1.2960416	1.3447566	1.514087	1.245586	1.2537808	1.450356
Alpha-1 microglobulin/bikunin precursor (Amlp)	0.8396561	0.8637073	0.8681382	1.042535	1.0688413	1.0188049	0.8906387	0.8181381	0.7653707	0.8550989	0.7689587	0.81099584	1.08457
Phase-1 RCT-18	1.1465908	0.8913575	1.0807004	0.9892096	1.0165082	0.9942715	1.016809	0.9523306	0.9545182	0.9832156	1.021927	0.9167369	0.9853706
Uapin	0.7286008	1.3186811	1.0204993	1.2000164	1.030389	1.0130657	1.022442	0.98044497	0.9222945	1.162441	1.0565958	1.1056882	1.0072879
Decorin	1.4273762	1.2786009	1.0950603	1.1839974	0.7684189	1.3463237	1.213992	1.383144	1.1731155	1.5448929	1.0811687	1.4225745	1.0785158
Retinoid X receptor alpha	1.110618	1.2881144	1.1556427	1.5197112	1.2851967	1.4408302	1.190143	1.0538983	0.8898356	0.9261656	1.0119324	0.963858	0.95283196
Cellular nucleic acid binding protein (CNBP)	1.0320048	0.5765657	0.6329265	0.6918434	0.8244982	0.8396458	1.0338737	1.0708843	1.0039876	0.8242882	0.94900425	0.90082854	0.9564708
NADPH cytochrome P450 oxidoreductase	1.4679936	4.2863693	2.155624	1.7849357	2.2371613	1.165602	1.1942163	1.3328527	1.1679114	1.4738023	1.3815774	1.1445841	1.086842
Malic enzyme	1.5438358	0.91813766	0.7524164	0.9992412	0.83871526	0.7388915	1.445719	1.0355888	1.486601	1.4965488	1.3055384	1.0225002	0.8128473
Caspase 1	0.7655454	0.9124986	0.76530355	1.0411969	1.1404732	1.0935359	1.3996022	1.384989	1.3909407	1.597923	0.9881916	1.176501	1.0095466
Cystatin C	0.68037186	0.8072313	0.79667386	0.8566871	0.7771387	0.83010894	0.7090629	0.8142077	0.8513537	0.8775722	0.8173381	0.87276506	1.0188778
P50CDC	0.81099894	0.9122131	0.8337832	1.0840508	1.023355	1.195758	1.1232865	1.0638914	1.0638914	1.0638914	1.051605	1.1683073	0.76761365
Poly(AOP-ribose) polymerase	1.1032641	0.7172432	0.9047335	0.9071759	0.9685372	1.0537622	0.8870325	1.0127122	1.1415848	1.0406271	1.276317	1.0518146	1.0717946
Tissue plasminogen activator	1.4138901	0.824679	1.0871538	0.968572	0.93833417	0.87045753	0.98778294	0.9682371	0.9383816	0.9383816	0.7707032	0.8584374	0.9573944
Multidrug resistant protein-1	1.3436774	1.1580913	1.258249	1.646325	1.5138085	1.33957	1.218552	1.281876	1.3986751	1.7395991	1.0477164	1.0138515	0.7813795
Phase-1 RCT-207	1.1089808	2.4389507	1.4879091	1.1143957	1.2271461	1.2290782	1.2428186	1.1180597	1.1180597	1.3672777	1.0244389	1.0684684	0.8946782
Phase-1 RCT-181	1.006287	1.2084018	1.2430782	0.917936	0.965244	0.9628901	0.9835848	0.9468581	0.7672721	0.8077687	0.8943081	0.87546884	1.0188245
Gap junction membrane channel protein beta 1 (Gjb1)	1.4494507	1.5120715	1.5512198	1.6457258	1.7433121	1.3343745	1.6338853	1.4142183	1.8770565	1.237116	1.2809743	1.1502087	1.280927
Aquaporin-3 (AQP3)	1.025233	1.0010842	0.9862442	0.9857677	0.8145036	0.8474362	0.9864455	0.9686655	0.9198938	1.2083824	1.0216213	0.85523493	1.0117893
Myelin basic protein	1.0404423	0.7622286	0.8120228	0.8082132	0.9794773	0.7421188	0.9788816	0.9320137	1.1608403	0.851007	0.96451175	0.8302322	0.996895
Calgranulin B3	1.1750648	0.894459	0.9393415	1.0054494	1.062972	1.062972	1.062972	1.062972	1.062972	1.062972	1.062972	1.062972	1.062972

Table 30

Phase-1 RCT-159 Protease activator 28 alpha	0.9187415	0.84877424	0.890612	0.8612908	0.98149294	0.8027278	0.6966788	0.79615994	1.0449444	0.7806898	0.986241	0.9010282	0.9823205
	0.8089116	0.8669007	0.99706423	0.9244762	0.92602235	1.0346128	0.89401793	0.94185823	0.90381473	1.0916772	0.9480881	0.9465617	0.98037937
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 29).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 hr: yes-recr, necrosis observed; yes-both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 26)													

Table 30

Table 30. Expression Data for 72 Hour Timepoint													
Compound-Dose (2)	Animal Number (3)	Liver Toxicity Inflammation Classification (4)	Gene Name (5)	Timepoint									
				CLOZ 180	CLOZ 45	CLOZ 45	CLOZ 45	CLOZ 45	CLOZ 45	CLOZ 45	CLOZ 45	CLOZ 45	CLOZ 45
Gene Name (5)	Animal Number (3)	Liver Toxicity Inflammation Classification (4)	Gene Name (5)	Timepoint									
				CLOZ 180	CLOZ 45	CLOZ 45	CLOZ 45	CLOZ 45	CLOZ 45	CLOZ 45	CLOZ 45	CLOZ 45	CLOZ 45
Phase-1 RCT-107	1149151	1.0776573	1.0481966	1.1180023	0.8649762	0.9765928	1.0210399	0.90473366	1.048173	1.1784516	1.5059857	1.0753106	1.1687845
Beta-actin, cytoplasmic	1.7944863	1.945179	1.9863094	1.7894177	1.3536216	1.3929266	1.4566138	1.6326904	0.7499064	0.46002632	0.7332347	1.1806445	0.8981399
Proliferating cell nuclear antigen gene	0.83714166	0.9124237	0.93625015	0.9030359	1.0346377	0.8162182	0.87659084	0.8773213	0.87659084	1.0029533	1.0029533	1.078667	0.6517953
Cytochrome P450 2D18	0.8985009	0.80448473	0.91944873	0.78476954	1.0616637	0.9233606	0.89770037	1.1499196	0.94331735	1.0243144	0.96710545	0.95697865	0.95697865
Cytochrome P450 2C11	1.1099949	1.2041823	1.3018594	0.95652137	0.9814552	0.84364194	0.7492037	0.7810663	0.7113905	0.41482708	0.8752399	1.0046109	1.0602225
Phase-1 RCT-290	1.3311437	1.6472455	1.2627106	1.1982678	1.4786121	1.2492393	1.2438068	1.3814807	0.68735668	0.7077895	0.8376409	1.171531	0.9259006
Phase-1 RCT-59	1.1171469	1.051562	0.7542857	1.543077	0.7555157	0.8769731	0.94884837	0.89706328	0.97562057	1.0053984	0.9667854	0.9537131	0.9876763
Beta-actin, sequence 2	0.97034746	0.81273097	0.93689865	0.98209788	1.0093821	1.1307719	0.89017224	0.8868564	1.009516	0.7894247	0.7878183	1.0184118	0.99046504
Phase-1 RCT-292	1.0784357	0.9769609	1.010801	1.1326665	1.1530368	0.8362132	0.8390407	0.8824185	0.8383115	1.092736	1.092523	0.9234384	0.9848138
Pyruvate kinase, muscle	1.0755103	0.9978729	0.9510485	0.8413215	1.1242154	1.0677803	1.07436	1.0371344	0.9707277	1.0191628	0.80258	1.0614388	1.084738
Osteocalcin	1.1242033	0.9710834	0.8345597	0.782278	1.188362	1.2869309	1.0545096	1.3016441	1.0436045	1.087628	1.102224	0.9385828	1.0281457
Calgranulin B1	1.1567681	1.049017	1.0216249	1.0071342	1.3007137	1.4891303	1.2600413	1.013569	1.216077	1.000599	0.9325962	1.1126071	1.078202
Calgranulin A1	1.770276	1.1358485	1.2526221	0.8341456	1.0258114	1.0280152	1.2073488	0.91918063	0.9780575	0.8881843	0.840684	1.1803539	1.0616817
Phase-1 RCT-109	1.403793	1.0283118	0.93303144	1.0447824	1.2618375	0.9413737	0.90716755	0.8334389	1.0854123	2.6924303	1.0486752	1.0043887	1.0043887
Glycine methyltransferase	1.1760856	1.2301499	1.0666521	1.0455092	1.1681853	1.2973869	1.2906782	1.0860146	1.1318149	1.038586	0.707365	1.163463	1.022853
L-glutono-gamma-lactone oxidase	1.212035	1.1284148	1.1744595	1.2875259	1.0426061	1.0489518	1.3136702	1.0460423	1.1597422	1.3797086	3.2440681	1.1838634	1.3246374
Phase-1 RCT-256	1.0424203	1.0930835	1.6085007	1.3140291	1.1569993	1.2339021	1.6513638	1.3744438	0.8179711	0.5681277	0.8412033	0.79596055	0.98667828
Carbonic anhydrase II	1.2407776	1.333512	1.1885689	1.22710838	1.2614039	1.0690426	1.3514035	1.1027033	0.8877471	0.8054079	0.95484877	0.92215188	0.9429005
Phase-1 RCT-78	1.0927727	0.8995155	2.1884947	0.7704223	0.7025983	1.0275047	0.807138055	1.1335784	1.0108628	0.30586762	1.4828331	1.2870838	1.4900255
Urinary protein 2 precursor	1.0483286	1.0379058	1.708239	0.708239	1.0231951	0.87800074	0.9706608	0.8481087	0.91521424	0.9973947	0.82684636	0.8998479	0.98756
Insulin-like growth factor 1	0.8280381	0.93172044	0.8908615	0.8540384	1.054338	1.3941047	1.4625309	1.5045375	0.88287955	0.8577039	0.9897327	0.7282732	0.90231204
Avy retrotransposon	0.88651425	0.7816437	1.0052008	1.0291662	1.2076078	1.3889232	1.4390445	1.2932276	1.193389	1.2277859	0.748145	0.72861236	1.1460044
Phase-1 RCT-185	1.2514228	1.2578673	1.5401074	1.5617064	0.9696009	1.0853333	1.298542	1.5198141	1.5402005	1.4059384	1.3828734	1.0466972	1.0501949
Coflin	0.1205121	0.89989663	1.1251785	0.9769723	0.80216485	1.0439078	1.2004147	1.0144587	0.8633061	0.74593594	1.1440312	0.85246053	1.0381277
Statmin	0.8236337	0.82355025	0.8232292	0.82718333	0.8004902	1.138059	0.9754817	0.9794297	1.0119145	0.93832416	0.955767	0.8624392	1.044669
60S ribosomal protein L6	0.8236337	0.82355025	0.8232292	0.82718333	0.8004902	1.138059	0.9754817	0.9794297	1.0119145	0.93832416	0.955767	0.8624392	1.044669
Calnexin heavy chain	1.1515948	0.8509998	0.8183888	0.8415784	0.9023886	0.92098178	0.88459285	0.87316436	1.0145407	0.8728239	0.83148265	0.9177923	1.0078622
Collagen type II	0.99287856	1.1111845	0.8272778	0.8608191	0.8539267	0.69595973	0.7719536	0.94758147	0.948458	0.85392895	0.623841	0.71562433	1.1839757
Phase-1 RCT-178	0.80528176	0.8416873	0.84694713	0.90748304	0.8005168	1.0118148	1.048945	1.0120175	0.8639916	0.92711278	0.88279235	1.0018384	1.182583
Voltage-dependent anion channel 2 (Vdac2)	1.1358946	0.957106	1.0704443	1.0278729	1.2044338	1.1356978	1.1356978	1.1356978	1.1356978	1.1723812	0.90651176	0.87763843	1.1225487
Phase-1 RCT-192	1.0517389	1.0852984	0.86833644	1.0092735	1.3018557	1.1356978	1.1356978	1.1356978	1.1356978	1.1723812	0.90651176	0.87763843	1.1225487
Adenine nucleoside translocator 1	0.8258902	0.8006287	0.7190591	0.7845273	1.1559027	0.8508092	0.81142119	0.789343	0.90855086	0.7590513	1.1668199	0.9027349	1.0615395
Thymosin beta-10	1.0114425	0.842529	0.7140514	0.97533035	1.107989	0.9593848	1.0070457	0.9062389	1.0258489	0.86577076	0.65518845	1.145022	1.2015641
High affinity IgE receptor gamma chain (FcεR1gamma)	1.0861608	0.9284319	1.1244863	1.070685	0.9305428	1.0997562	0.97643757	1.0102549	0.8734644	0.8866277	0.9763599	0.88368237	1.105533
Gamma-actin, cytoplasmic	0.82630765	0.695773	1.057352	0.7921193	0.8282278	1.4135207	1.2651862	1.1447126	0.873388	0.62081463	0.6508007	0.8709148	0.9287542
Uncoupling protein 2	1.0299327	0.9465458	0.9618864	1.0083333	1.1621724	1.21379	0.8315023	0.9946378	0.8637684	1.005229	0.7241208	0.9759121	1.0233186
Phase-1 RCT-34	1.1175959	1.1429194	1.2022213	1.052614	1.250895	1.5820279	1.418841	1.2077016	1.1332252	1.0744706	0.72359747	1.1774309	0.9857153
Phase-1 RCT-31	1.4463238	1.056558	1.3770848	1.1930419	1.2871331	1.4907315	1.6270742	1.9933837	1.1855191	0.5952443	1.0089076	1.001959	1.2888056
Cyclin D1	0.88607014	0.5582502	0.6728055	0.88404185	0.8954247	1.3003984	0.7777053	0.8142181	1.4106809	0.89332753	1.388662	1.0784629	0.80450794
IgE binding protein	1.3287609	1.1711911	1.2024622	1.1438808	1.5231959	1.3003984	0.8910353	1.098371	0.8798755	1.0541551	1.018848	0.81503716	1.1055943
Zinc finger protein	0.8663756	0.91790426	0.7956351	0.941107	0.9406952	1.0014509	0.81817086	1.0498218	0.983519	1.0812954	1.1095513	0.8478718	1.0076778
Phase-1 RCT-138	1.0840216	0.9785684	1.0485007	1.0338886	1.104476	1.0235408	0.82779448	1.0145028	0.9170204	1.0895128	1.0611228	0.8300493	1.0324403
Alpha-tubulin	0.8622245	0.8613381	1.0214623	0.9065345	0.7659338	1.1380464	0.82728267	0.5871934	1.1977708	0.7659894	0.81886244	1.1459824	1.0066274
Alpha-anthracycline	0.98188007	0.8513381	1.0214623	0.9065345	0.7659338	1.1380464	0.82728267	0.5871934	1.1977708	0.7659894	0.81886244	1.1459824	1.0066274
Cellulose	0.9630903	0.9845938	0.88748226	0.8618121	1.0530019	0.99711855	0.9743212	1.073631	0.94898317	0.937706	0.93207645	0.9635484	1.011666
Phase-1 RCT-12	1.0380212	1.0286527	1.001728	1.0018955	1.1101678	1.1355	1.0437195	0.813268	1.1386274	1.0071388	1.0244678	1.1829742	1.026509
Calnexin B	1.0097767	1.069271	1.0886652	1.0741798	1.0058811	1.047575	1.001082	1.29186	0.837037	0.8217963	0.84428135	0.7163477	0.9786889
Phase-1 RCT-24	0.92838845	0.9967884	0.96355137	1.0015018	0.8078765	1.2737138	1.0266135	0.7351414	1.2347034	0.8340559	0.892238	1.260508	1.1780993
Melanoma-associated antigen ME491	0.8895932	0.87279665	0.82945536	0.82789116	1.5788665	0.9851688	0.9846938	1.0029311	0.8571029	0.8831861	0.91645175	0.99445647	1.0727674

Table 30

Phase-1 RCT-48	1.0485014	0.9752446	1.0027404	0.9281353	0.9343307	1.0706102	0.9868028	0.9865464	1.0347116	1.0300975	1.0448085	1.0561926	1.0736389
Oridin G	0.9751925	1.1137758	1.1415504	0.9821067	1.0443382	0.9321076	0.8114805	0.8632552	1.120371	1.30701	1.5372216	1.1674277	1.0768332
Hypoxanthine-guanine phosphoribosyltransferase	0.957009	0.9645646	0.9603361	0.9592635	0.8918157	0.86518307	1.0289637	0.91702825	0.9183561	0.772777	0.8641161	0.91272867	0.9762885
Tissue inhibitor of metalloproteinases-1	1.3461661	1.3057308	1.0563725	1.0857068	1.0451751	0.978981	0.8826237	0.8989735	0.9473355	0.8955073	1.0427619	1.1461836	1.1971234
ID-1	0.97306955	0.89925035	0.9114001	1.0458348	1.0790147	0.85776407	0.9038645	0.7786043	1.4221331	1.3117000	1.2024379	0.88279176	1.0736389
Ribosomal protein S0	1.078657	0.8992503	0.7682277	0.83904227	0.9983905	1.0048176	0.8002284	0.8158283	1.018121	0.75641123	0.9905605	1.126217	1.0594349
Heme oxygenase	1.178355	0.99780095	1.3140186	1.0562203	1.680988	1.3180335	0.9512541	1.0570935	1.1161497	1.3533763	1.5093226	0.9202954	1.2587101
Ribosomal protein S8	0.80872806	1.0782147	1.0504315	1.024273	1.080711	1.432913	1.2853463	0.9950952	0.864613	0.9054608	0.9897652	1.2300474	0.9514881
Ribosomal protein S17	1.0857216	0.9458616	1.0104731	0.8323593	1.069004	1.8353303	1.5597183	1.5429296	1.0385991	1.0613846	0.9413181	0.9515101	0.8514881
Nucleoside diphosphate kinase beta isoform	1.2404032	1.0605987	0.9878356	1.0319128	1.0883455	0.860248	0.8753263	0.81024283	0.9780757	0.8618786	0.9664283	1.0120844	1.063564
Phase-1 RCT-121	0.83271724	0.7945927	0.9014508	0.8794408	0.9311846	0.931588	0.778236	0.8180615	1.0228134	1.248784	0.93815665	1.0709227	1.0688179
14-3-3 zeta	0.8432839	0.7632337	0.9167286	0.8579238	0.84956514	1.0354699	0.8428893	0.7429416	1.2411304	0.823343	0.7916370	1.1294808	1.1294801
60S ribosomal protein L8 (allanate clone 1)	0.8471788	1.1301306	1.1238925	1.1153563	1.06916	1.1584644	1.1591252	1.1706502	1.0988285	0.9357151	0.83716448	1.019827	1.0911468
Beta-tubulin, class I	1.0364737	0.88356874	1.2325191	1.2749845	1.1082929	1.303133	1.0861418	0.7138693	1.1614804	0.85389615	0.88796015	1.2561872	1.1218414
Organic cation transporter 3	0.8646184	0.8776594	0.8461358	0.90434164	0.82333884	0.9408363	0.8288421	0.91209847	1.0019855	0.8795066	0.8878255	0.92841044	0.9521025
Beta-actin	0.8523393	0.80616293	0.78435916	0.78109464	0.6980713	1.1827764	0.81428265	0.72150904	1.3811171	0.9341973	0.7267597	1.255621	0.75133723
Cathepsin S	0.9115765	0.78955226	1.2878482	1.1388571	1.0732069	0.8223536	0.8180137	0.76017064	1.0460138	1.0217098	1.1510504	0.93368554	1.0388556
Blivudin reductase	0.888672	0.8304783	1.008118	0.9469397	0.99117565	0.91416128	0.72437806	0.7587316	0.881697	0.82032045	1.000472	1.0752407	1.081202
Phase-1 RCT-154	0.9004101	0.9267483	0.80102865	0.8603675	0.95691437	0.9158813	0.9100393	0.937422	1.045738	0.8485645	0.87015758	0.97508377	0.88378433
Phase-1 RCT-283	1.21768	1.1872828	1.103168	1.0544103	1.148001	1.088589	1.039677	0.9873254	0.89125533	0.9388975	0.9429922	0.86703813	1.0890228
Arctin V	0.9014699	0.9790916	1.0081031	1.2588427	1.0384034	0.9261032	0.7493892	0.828671	1.2057784	1.0490978	0.907718	0.90712185	0.9733522
Complement factor I (CFI)	1.4868111	1.1485963	1.3063542	1.0145908	1.2674281	0.97545385	0.8807144	1.3288581	1.3277539	1.0681023	1.2611715	0.8888846	1.1689769
Phase-1 RCT-278	0.94202658	0.81921643	0.9200143	0.952874	0.97144934	0.8684145	0.85347676	0.944126	0.97823237	0.8095152	1.0670692	0.9688342	0.98826817
Tyrosine aminotransferase	1.4782602	1.182839	1.7459975	1.0831022	1.021973	0.7408487	0.7712617	2.4160882	1.43665	0.7283484	1.4258856	0.85520864	0.78316045
Glutathione peroxidase	1.0601014	0.8482028	0.8478081	0.9047897	1.1853774	1.0433384	1.3336021	1.0920597	1.4337538	1.6084003	1.3508771	0.92851393	0.895014
Histidine-rich glycoprotein	0.94221683	0.7628121	1.1678214	1.2197368	1.3413714	1.1519202	1.4847784	0.73222654	1.021283	0.9585619	1.4232862	0.7521074	0.952909
Carbonic anhydrase III, sequence 2	0.7203424	0.72897863	1.112851	1.1796547	1.0437241	1.0109083	1.2402552	0.94876881	0.95694953	0.53526257	1.3044713	0.7394772	0.9097453
Phase-1 RCT-92	1.82154614	0.86239034	1.0286801	1.0039021	0.812068	1.012507	0.9707628	0.9433003	0.90017184	0.80607946	0.97884213	0.7894578	0.8947837
Transitional endoplasmic reticulum ATPase	0.9198292	0.7803372	0.9057104	0.8861389	0.7642841	0.8977891	0.7533063	0.74097486	0.9095313	0.86341904	0.9474051	0.9008811	0.8733001
Phase-1 RCT-88	0.9794189	0.8107174	1.032673	0.9828074	0.9739388	0.9719857	1.452212	0.8339893	0.9125274	0.7538893	1.150812	0.8611348	0.9428847
Phase-1 RCT-286	0.83898456	0.7562841	0.5736187	0.62815785	0.80754163	0.83134356	1.1530846	1.0242623	0.9508846	1.030126	1.29638	0.6580084	1.0342824
Phase-1 RCT-161	0.9805948	0.978108	1.0688776	0.9084508	0.8781754	1.0168979	0.9308456	0.8603684	0.99134296	0.4448004	1.2706891	1.3184544	1.1062529
Glutathione S-transferase theta-1	1.0359811	0.913502	0.97895798	1.0232378	0.8789417	0.8082108	0.8649103	0.7386033	1.053044	0.57518154	0.742128	1.3050172	1.0518857
Phase-1 RCT-168	0.93217887	0.8914628	0.8766484	0.99335396	0.9986931	0.8274715	0.9707628	0.9433003	0.90017184	0.80607946	0.97884213	0.7894578	0.8947837
Phase-1 RCT-162	1.0320381	0.8722419	1.1435551	0.9788813	0.78770965	1.11889	0.9004785	0.9433003	0.90017184	0.80607946	0.97884213	0.7894578	0.8947837
JNK1 stress activated protein kinase	1.1040957	1.2033893	1.5390178	1.4406097	0.9048421	1.0180285	1.1695323	1.1550738	1.216078	1.0832772	1.3566513	1.1547185	1.0531117
Phase-1 RCT-81	1.2808801	0.8992294	1.0518415	0.933387	1.0306301	0.95928484	1.0236173	1.0924891	0.9792534	0.80452	0.90817595	0.80362304	0.9082125
Phase-1 RCT-33	1.0312929	1.1231512	1.0037721	1.0676316	1.2376853	1.1033571	0.8983891	0.85803888	0.9036369	0.785428	0.5891853	0.7694226	0.8703879
Phase-1 RCT-178	0.7637366	0.78128105	0.6449059	0.70181566	0.47209433	1.0043938	0.8668891	0.8427623	0.9556103	0.77312975	1.4248247	1.3438107	0.79350874
Apolipoprotein CIII	0.8842183	0.75328866	1.0141903	0.9184669	0.728012	0.73656746	0.85100676	0.85100676	0.8427623	0.9556103	0.77312975	1.4248247	1.3438107
Phase-1 RCT-88	0.9725523	1.0189484	1.3127183	1.0089843	1.3378121	0.92722815	1.073241	0.8461232	0.8405781	0.78651774	0.9881854	0.78171396	0.9038838
NADH-cytochrome b5 reductase	1.2347658	1.0278974	1.03221	1.0141063	1.3359842	0.8372537	1.0157341	0.8461232	0.8405781	0.78651774	0.9881854	0.78171396	0.9038838
Alpha 1 - inhibitor III	0.94599695	0.9111553	0.97021675	0.9830926	1.0273386	0.8233888	0.8088662	1.2788984	0.69308984	0.8849854	0.77574676	0.7284331	0.71515703
Phase-1 RCT-233	0.94599695	1.2541065	1.2895048	1.0728384	0.9382872	0.8817461	1.0915128	1.0655489	0.8085756	0.9278531	0.97001004	0.93856494	0.9604576
Paraoxonase 1	0.0257082	0.8088424	0.9410453	1.0143371	0.8137819	1.0672224	1.4343208	1.6882317	1.032124	1.0188024	1.4682071	0.820721	0.9554170
Prasadin-1	1.1686412	0.9258915	1.0375314	0.98488016	1.3093697	0.8586785	0.96221776	1.3341583	0.699565	0.86272125	0.7827065	0.7375243	0.7180446
Apolipoprotein C1	1.9600082	1.128233	1.2010529	1.12132804	0.7663356	0.8662153	0.8384923	0.9415523	0.84070383	0.9262882	1.0739247	0.89772105	0.815743
Glycophorin P450 2C23	1.0763364	0.7897656	1.0262516	0.87521764	1.146323	1.0035026	0.8478655	1.0600836	1.0574307	1.1282346	1.1485952	0.8097371	1.1567591
Phase-1 RCT-227	1.2002728	0.822784	0.96028	0.98028	0.984734	1.1778434	1.2272613	1.4298489	0.854015	0.75575125	0.8849203	0.87077606	1.175167
Hepatic lipase	0.9201593	0.7172263	0.79861226	0.75823628	0.70732707	0.8325823	0.7801719	0.8040875	0.79831	0.73216507	0.8298894	1.2311554	0.9038838
Phase-1 RCT-164	0.9174788	0.8940923	1.0004438	0.8778837	0.85156873	0.8505652	0.905582	0.9658303	0.7644438	1.4428737	0.8737898	0.92708025	0.9038838
Mitochondrial protein-2	0.8323587	0.88363004	0.6773307	0.856035	0.9204552	1.040785	0.8604286	0.9938333	0.7544338	1.4428737	0.8737898	0.92708025	0.9038838
Insulin-like growth factor 1, exon 6	0.9658594	0.804049	0.8523994	1.0844959	1.5016441	1.8508125	2.86852	1.7243525	1.0918908	1.5580198	0.72560538	0.8712807	0.97286035
N-hydroxy-2-acetylaminofluorene sulfoxidase (STC1)	0.90999913	0.8320577	1.1063389	0.99531	0.8514848	1.16919073	1.7789848	0.8813845	0.81500823	1.2847359	0.8715046	1.2367915	1.2367915
Dynamin-1 (D100)	1.0278473	1.2025849	1.2312182	1.1141444	1.0117599	0.9570832	1.0458424	1.0422245	0.98050725	0.8392251	0.90188473	1.0454576	1.0893102
DNA polymerase beta	0.85654384	0.95113975	1.0159286	1.016863	1.0287015	0.9771063	0.97428897	1.0313795	0.8956734	0.7708165	0.9134087	0.55219574	0.9706627

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Phase-1 RCT-173	0.8587228	1.2032716	0.8001115	0.9233563	1.127942	0.8348309	0.8314083	0.8492657	1.0492277	0.7612543	0.8040261	1.2387823	0.7943308
Ubiquitin conjugating enzyme (RAD 6 homologue)	1.0132768	0.908407	0.8181327	0.92129185	1.0369884	1.0264703	0.9279189	0.8954985	1.1445509	0.8334487	1.203888	1.0826305	1.070863
Ribosomal protein L13A	1.0950862	1.0986358	0.9600459	1.0378356	1.1930781	1.3920814	1.3130094	1.072849	1.2496665	1.0832107	0.6488608	1.2528448	1.1315837
Phase-1 RCT-144	0.83101547	0.8012767	0.709105	0.918478	0.800933	0.71581425	0.8702797	0.79730076	0.96920896	0.9787308	0.83592547	0.98859054	0.91909987
c-H-ras	1.0092757	0.8590686	0.9471373	0.9408022	0.8986558	1.1107528	0.9702703	0.9741918	1.1199588	1.0730132	0.8911635	1.0825625	0.9768399
Vesicular monoamine transporter (VMAT)	1.1338751	1.2545631	1.2455846	1.1479207	1.1397574	0.9862627	0.9895086	0.8845101	1.013497	1.0423497	1.0423497	1.076841	1.076841
Phase-1 RCT-273	1.0542128	1.0564817	1.0515783	0.9440258	1.132596	1.1927268	1.1248944	0.92378136	1.1248944	1.0854612	1.0803808	1.158474	1.158474
Phase-1 RCT-230	1.0771128	1.0527806	1.0646818	0.978135	1.1513941	1.3307012	1.0715871	0.9528913	0.85761225	1.1571332	0.8866127	1.1171075	1.0580235
Phase-1 RCT-74	1.0833321	1.0955734	0.9514165	0.8511567	1.205108	1.0676418	0.857836	0.8729587	0.82358677	1.130718	0.8048508	0.9848508	0.98288328
Phase-1 RCT-80	1.0078875	1.3588881	0.9855559	0.8363434	0.9564724	1.1049113	1.0678868	1.0386165	0.82689187	1.040271	1.0073289	1.0500203	1.1068702
Phase-1 RCT-159	0.91571325	1.0091028	2.7851846	0.9360168	0.962226	0.89268124	0.980689	0.91850874	0.9478313	1.0389789	1.0439131	0.917977	0.9139073
Decarboxylase kinase	0.5774283	1.058297	1.0692297	0.7899597	1.0396848	0.9734256	0.92541414	1.048436	1.0230314	1.4517184	1.2765332	0.9183027	0.9458742
Inositol polyphosphate multikinase (IPMK)	1.1212322	1.0160018	0.9197037	0.9516663	1.0131373	1.2438421	1.1883481	1.2600688	0.9268028	1.0292482	1.023167	1.036676	1.036676
Neuronal cell adhesion molecule (NCAM)	1.060072	1.0435296	0.9175108	0.91398114	0.9710869	1.1451086	1.0547122	0.9235542	0.91055846	1.1518128	0.94078165	1.1157117	1.2064876
Hepatocyte growth factor receptor	1.031222	0.98801917	0.93898395	0.98480044	1.0513182	1.2442266	1.0406326	0.988333	1.0049044	1.182307	1.0434884	1.0931913	1.0931913
Empty	0.9476206	1.0778885	0.7744355	0.7918503	0.92582765	0.7408768	0.6183052	0.6153425	0.75580845	1.2273412	1.0227839	1.1774741	0.96138024
Dopamine receptor D2	1.0943636	1.0532422	1.2075763	1.0953395	1.0013114	1.0251024	1.2509086	1.3713233	1.0130244	1.1697029	1.1206105	1.0474118	1.1001159
Phase-1 RCT-61	1.0915668	1.1180296	1.087897	1.0718944	1.03217	1.1632483	1.0871383	1.15836	1.0025375	1.1031916	1.0330175	0.9300181	0.9605534
Four repeat ion channel	1.0070904	1.068033	1.0010155	0.8851873	1.0483146	1.0233454	1.0463538	1.0290965	0.88488795	1.1051854	0.99643046	0.9538825	0.9538825
Adrenomedullin	1.0425404	1.009158	0.7726535	0.8235152	0.9892268	0.82889634	0.72833354	0.8106758	0.7673565	1.3415383	1.0004045	1.1629822	1.0892714
Caveolin-3	0.84518788	1.0400517	0.9715819	0.9463735	0.945814	1.0240574	1.036203	1.0156117	0.8462345	1.095298	0.9860757	0.9742462	0.9860757
Phase-1 RCT-129	0.964781	1.008353	1.00116	0.95267856	0.9416374	1.085347	0.9848735	0.9211821	0.80337807	1.1472322	0.9873825	0.9884304	1.0885666
Phase-1 RCT-94	0.9144707	1.0913103	0.8441234	1.0183525	1.00221	0.89285233	1.0440488	0.965924	1.0272152	1.0482861	1.0331916	0.9300181	0.9605534
Sarcoplasmic reticulum calcium ATPase	1.2081785	1.1811261	1.2784787	1.1232965	1.1251411	0.9417867	0.9758787	1.302958	1.2591586	1.276561	1.1629725	1.2539784	0.9953642
Phase-1 RCT-79	1.0953317	0.96503055	1.0272384	0.9659048	1.0523502	1.2188888	1.2533158	1.0555558	0.8286273	1.1325424	0.9751518	1.0439707	1.0398025
Phase-1 RCT-282	1.0387315	1.0934927	1.1275805	1.1422117	1.1287588	1.4076272	1.3048832	1.5548888	1.057868	0.9230821	1.1529481	0.97885186	1.0188336
Phase-1 RCT-151	0.8652386	0.8096145	0.892806	0.93627003	1.0146756	0.85150877	0.93189486	0.8522178	0.9247868	0.97801346	0.98344444	0.864511	1.024739
Phase-1 RCT-70	1.3406388	1.0954427	0.992836	0.9671054	1.029768	1.1322354	0.785178	0.5023827	1.0008053	1.2625088	0.98340684	1.087514	0.9834068
Phase-1 RCT-150	1.3680816	1.0406252	1.0435623	0.7609178	1.1879137	0.9871276	0.96571016	0.9880821	1.1398891	1.1858135	1.0500845	1.1672313	0.9872313
25-hydroxyvitamin D3-1 alpha-hydroxylase	1.0408454	1.0713623	0.8331588	0.8848138	0.9409453	0.85885246	1.047382	0.97872617	0.8978722	1.074305	0.9554612	1.024396	0.9016675
Phase-1 RCT-119	1.0238661	1.2277719	1.2186819	1.1015886	1.126308	1.2887026	1.0742362	1.2860185	1.0480802	1.0612222	1.1417114	1.0388194	1.0218001
Penicillin 3-acyl-CoA thiolase 2	1.0540267	1.3543302	1.3191373	1.157259	1.1085894	0.8900809	1.0016161	0.88041055	1.1045488	1.0387013	0.6917669	1.1065448	1.0443285
Phase-1 RCT-146	0.9013935	0.9678237	0.851819	0.907967	0.95854896	0.9741255	0.97389406	0.9552822	0.89946043	1.0923286	0.9932351	1.0318807	1.0243378
Superoxide dismutase Mn	1.2435799	1.3342232	1.3467083	1.4091574	1.118982	1.1828886	1.0303702	0.8534278	1.0475384	0.84332054	0.8337688	1.2042328	1.1872835
Phase-1 RCT-115	1.0519744	0.98213583	1.112015	1.0755063	1.0747783	1.3871518	1.2711755	1.0045019	1.0314493	1.1318788	0.96017456	1.3004888	1.1532124
Alpha-1 microglobulin/bikunin precursor (Amp)	1.24618	0.980785	1.0075732	0.8366026	0.98878133	0.81698976	1.025451	1.1161635	1.0172861	0.5992527	0.60859494	0.75506683	0.9001037
Phase-1 RCT-18	0.90045977	1.0017488	1.0101657	0.9575216	0.90536375	1.0190051	1.0355213	1.0213221	0.9236123	0.9780891	0.9973572	0.9180121	0.864122
Maapin	1.0129534	1.1418403	0.9272678	0.98099013	1.0573543	0.84919596	0.93039036	1.2125725	0.84338323	1.2897073	1.0181806	1.095501	0.98074883
Decorin	1.0689914	1.1655521	1.3974947	1.1074705	1.2703669	1.0945175	0.9872753	1.1692381	0.9189278	1.281644	0.9572065	1.4720458	1.0651525
Retinoid X receptor alpha	1.2637656	1.3704399	0.97650635	1.0459572	1.2074845	0.7464112	0.71141108	0.68256434	1.0370606	1.2014333	1.0428698	1.2428078	0.9729519
Cellular nucleic acid binding protein (CNBP)	0.87954795	0.9361021	1.0493834	1.115395	0.8949503	0.9501388	0.8707704	0.8961017	0.9713539	0.8087855	0.67222655	0.8947188	0.91771066
NADPH cytochrome P450 oxidoreductase	1.3235212	1.3749297	1.1004672	1.0614828	1.2047989	1.0915987	0.8392803	0.8822543	1.1091412	0.9280861	1.1296392	1.2260785	1.0945491
Malic enzyme	0.7105826	0.7424378	0.9098928	1.0353628	1.0368335	0.7665634	0.810519	0.8782684	0.7851629	1.0361118	0.8485974	1.19362	1.051407
Caspase 1	0.9288211	0.9594932	0.8876401	0.91078174	0.96311927	0.83438358	0.7222485	0.7896426	0.9150481	1.0415615	1.036109	1.0182394	0.91262378
Cystatin C	1.1224918	1.1194959	1.380179	1.0837369	0.88116455	1.2707493	1.2186828	1.7878616	0.9711461	1.065682	0.9417244	0.94073135	1.0226791
p53/CDC	0.8781545	1.021852	0.862381	0.8886666	0.9518141	1.2887709	0.8928361	0.7048952	0.94121045	1.0592881	0.9494147	1.0935701	1.0237708
Poly(ADP-ribose) polymerase	1.0168988	0.8603865	0.9283076	0.93310314	0.8862652	0.7781844	0.84595567	0.7581823	0.93986368	0.88551088	1.089433	1.0325987	0.951148
Tissue plasminogen activator	0.8035504	0.97592455	1.0098232	1.0170149	1.028418	1.241344	1.153396	1.1381244	0.9717441	0.8347132	0.905597	0.95392755	0.9831994
Multi drug resistant protein-1	0.7800597	0.7355182	0.7809457	0.95860494	0.9530794	0.9020272	0.8103981	0.879083	0.889143	0.9468519	1.3978633	1.0009837	0.9791883
Phase-1 RCT-207	1.09505174	1.0950443	0.832087	1.1198542	0.87818147	0.9897421	0.94828883	0.85478115	1.0304447	0.96343255	0.81513846	1.1363107	0.9121688
Phase-1 RCT-181	1.1183282	0.9853407	1.0283523	0.9837835	0.9832819	0.74991975	1.0022587	0.8635287	1.332659	1.390284	1.046703	1.126747	0.9948127
Gap junction membrane channel protein beta 1 (Gjb1)	2.0363147	1.8287897	1.3185909	1.5151329	2.101717	1.4025865	1.4358855	1.2624295	1.2122568	3.3878913	1.4786648	1.3547949	1.0686563
Aqueporin-3 (AQP3)	0.9222453	0.98037523	1.0281225	0.9805326	0.9566063	0.95210004	1.0134764	1.0130141	0.9842802	0.9481025	0.9807515	0.9788304	0.94107753
Myelin basic protein	1.2456341	1.028047	0.8662174	0.8622457	1.152041	0.95624015	0.89686008	0.77050436	1.012413	1.195284	0.8877018	1.1428741	0.8862512
Calgranulin B3	0.94534683	0.9125257	0.87284064	0.93897265	0.83059315	0.9366865	0.89418518	0.8751146	1.0244302	0.92724884	0.86076983	0.9256769	0.9512628

Table 30

Phase-1 RCT-156	0.802825	0.815807	0.9542208	0.88218457	0.9307423	0.86933446	0.8841302	0.8032814	1.1653254	1.6257813	1.0078518	1.1430846	1.0538337
Protease activator 28 alpha	0.80289458	0.7976625	1.0407864	0.9605569	0.84122705	0.99901754	1.0792819	1.0214782	1.0182442	0.9091019	1.0745498	0.8892653	0.86583384
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 h: yes-necr, necrosis observed; yes-both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 26)													

Table 30

Table 30. Expression Data for 72 Hour Timepoint																		
(1)	CPHOS 25		CYCA 20		CYCA 80		CYCA 20		CYCA 80		DEX 30		DEX 8		DEX 8		DEX 8	
Compound-Dose (2)	2149		427		428		428		437		438		439		1358		1347	
Animal Number (3)	no		no		no		no		no		no		no		no		no	
Liver Toxicity Inflammation Classification (4)	no		no		no		no		no		no		no		no		no	
Gene Name (5)	no		no		no		no		no		no		no		no		no	
Phase-1 RCT-107	1.1292918		1.2788833		1.0549026		0.88051426		0.7745631		0.87003587		0.7180358		1.6542781		0.96808986	
Beta-actin, sequence 2	0.95912504		2.0917316		2.7656544		1.7445312		1.4453971		0.36728206		0.6143343		1.2194722		1.8462989	
Proteinase 3	0.8573624		0.8131774		0.57554833		0.8527367		1.0411046		1.0249788		1.0286162		0.98158		1.9711014	
Cytochrome P450 2D18	1.0467342		1.1745268		1.0357372		1.005872		1.0345931		0.9770508		0.9437716		1.2109227		1.3896873	
Cytochrome P450 2C11	1.306577		0.90301853		0.6865576		0.7978937		1.1863031		1.2080069		1.3865265		1.7149051		1.9723819	
Phase-1 RCT-280	0.9913524		1.4556803		1.5006878		1.4837136		1.1815866		0.5071215		1.2550104		1.8421942		1.2741794	
Phase-1 RCT-280	1.0256775		0.65180054		0.78160684		0.84330046		0.84682514		0.65295233		1.1070546		1.4482594		1.4882594	
Beta-actin, sequence 2	0.9284483		0.9061514		1.1042447		0.88615485		1.267698		1.3644415		1.1147833		1.1068482		1.0427792	
Phase-1 RCT-292	0.8543792		0.84768714		0.8708078		0.9543222		0.8684958		0.9385645		1.0116643		0.8749867		1.0969095	
Proteinase 3	0.8798138		1.0857697		0.97539716		1.2616954		0.8947152		1.3422297		1.1754122		0.9634752		0.946750034	
Osteocalcin	1.0240222		0.896871		0.864158		0.9913611		0.8853764		1.1373097		1.1418818		0.9834752		0.8926461	
Calgranulin B1	1.0272896		1.3868315		0.93983595		1.3432728		1.0266143		1.4185893		1.187761		0.9699213		1.0525991	
Apolipoprotein AII	0.9684375		1.630234		1.2973926		1.4360538		1.208233		1.1436312		1.6144732		0.49113858		0.727478	
Phase-1 RCT-109	1.2281916		1.1302176		0.89736706		1.0053958		1.1058435		1.143522		1.2017082		0.7657571		0.6411981148	
Phase-1 RCT-109	0.9258926		1.2158397		1.1518681		1.1532438		1.2002877		1.4085066		1.1285955		1.0810713		1.0056187	
Glycine methyltransferase	1.4599318		1.357226		1.5469992		0.9010144		0.77543145		0.54865787		0.6612968		0.577084		0.8997576	
Lysine gamma-glutamyl transferase	1.0270665		1.5331869		1.2854848		1.0644956		0.887273		0.4414875		0.577084		0.8997576		0.8997576	
Phase-1 RCT-256	0.8906687		1.477024		1.5087241		1.175517		0.97128594		1.1092354		0.96391883		1.1236368		0.8841669	
Carbonic anhydrase III	2.018163		0.66143453		0.6881112		0.7176741		0.4208322		0.30443278		0.5430284		1.0923457		1.1566902	
Phase-1 RCT-78	0.9054032		1.144422		1.0381567		1.0928943		0.8570016		0.94274217		0.85158193		0.5652487		0.5514183	
Ureteric protein 2 precursor	1.0928203		0.9544224		1.2333563		0.9308785		0.80156486		0.7156372		0.8549287		1.2355231		1.1528808	
Insulin-like growth factor I	1.110507		1.0455871		1.523588		1.1217838		0.7659172		0.9406944		0.75946228		0.71141016		0.7802773	
Adiponectin	1.1157446		1.3958911		1.2748202		0.7848816		0.79904664		0.4504286		0.7666222		1.9703963		0.83281293	
Phase-1 RCT-185	1.1620264		1.0868282		1.393148		1.1743757		0.87871456		0.7898987		0.68381983		0.99589275		0.93287024	
Collin	0.9616403		1.0183903		0.84867043		1.143015		0.8164281		0.8268966		0.99891524		1.1241914		1.0590244	
Stat3	1.0344216		0.7232014		0.6512495		0.8213362		1.0253643		1.2221408		1.0955684		1.0461803		1.0661529	
60S ribosomal protein L6	0.93184716		0.9593333		1.0840175		0.9728762		1.2178493		1.1989192		1.0975139		0.8908671		0.890112	
Calpain I heavy chain	0.9659106		0.9420722		0.8040061		1.1129271		1.005458		1.2508936		1.1621914		1.0262381		1.13567785	
Collagen type II	0.7978825		0.97475165		1.707809		1.2648607		1.267939		1.292575		1.4138172		0.984687		0.8844044	
Phase-1 RCT-179	0.8731843		0.79587343		1.0344538		1.0024524		1.0044488		1.1354851		0.82875156		0.9164758		0.9164758	
Voltage-dependent anion channel 2 (Vdac2)	1.0022452		1.172515		1.1763374		1.1192122		1.2327982		1.0904816		0.9222117		1.0473233		1.1263573	
Phase-1 RCT-192	1.0780498		1.0025298		1.0904022		0.984779		1.0606666		1.0427132		0.9462553		0.8948574		0.9939306	
Adenine nucleotide translocator 1	1.1587278		0.8392341		1.1152223		0.9800354		1.0734262		0.7602497		0.8901927		0.97974426		1.0589977	
Thymosin beta-10	0.8728415		1.110147		1.4052982		1.0154701		1.2575134		1.1844214		1.0508912		0.9089127		0.80971766	
High affinity IgE receptor gamma chain	0.93614626		0.8656931		0.8138246		0.900005		1.0431533		1.2187135		0.9411922		1.0534377		0.86075014	
(c-erbB2)	0.971497		0.95438474		1.0900418		0.9570841		1.1188185		1.0087211		0.9547366		1.0886305		0.94462284	
Gamma-actin, cytoplasmic	0.8613807		0.7818076		1.0664377		1.0237813		1.2744315		1.451888		1.2299707		1.0889016		0.9754072	
Uncoupling protein 2	1.082406		0.9764898		0.8050142		0.92537147		1.3215144		1.2018861		1.1247215		0.814364		0.9765328	
Phase-1 RCT-34	0.97783855		1.138078		0.9204436		0.9420427		1.0614245		0.7013858		0.7126899		1.1980798		1.1688085	
Phase-1 RCT-31	1.4580588		0.87149153		0.6370017		0.9652214		1.3900472		0.907176		0.98123825		0.85768497		0.7522711	
Cyclin D1	0.898968		1.0249648		0.809337		0.9600469		1.0058296		1.3735777		0.9135652		1.0961411		0.9631939	
IgE binding protein	1.0913563		0.9452025		0.84356755		0.8352406		0.88714504		0.9247244		0.8722855		1.04894784		0.90128455	
Zinc finger protein	0.9085556		0.9874259		0.8914989		0.92437693		1.0114303		1.184448		1.0216083		0.96894075		0.86994075	
Phase-1 RCT-138	1.328019		0.69071827		0.2092317		0.8912816		1.2151084		0.9829797		0.8683563		0.7781785		0.9787315	
Alpha-tubulin	0.8037432		1.0820533		1.1567007		0.868437		1.1662757		0.8248833		0.7781785		1.2206609		1.1825549	
Alpha-prothymosin	0.94494516		0.88685664		0.75807685		1.0116698		0.96425515		1.0484521		1.0274218		1.1811935		1.0829476	
Calpain 2	1.00642		0.8844428		0.8707415		1.1399476		1.1399476		1.0480716		0.9635742		1.1762588		0.8658373	
Phase-1 RCT-12	0.8533268		1.2210201		0.9118014		1.0895583		1.0121789		1.136172		1.1312598		1.1296322		0.97691406	
Cathepsin B	1.2692897		0.8441142		0.9002981		1.1313788		1.2823185		1.0934281		1.0175707		1.3084494		0.97153115	
Phase-1 RCT-24	0.89133174		0.75007546		1.089553		0.91743124		0.9168848		0.9092784		0.90266284		1.1281337		1.042141	
Melanoma-associated antigen ME491	0.89133174		0.75007546		1.089553		0.91743124		0.9168848		0.9092784		0.90266284		1.1281337		1.042141	

Phase-1 RCT-68	1.0156757	1.0680336	0.8848832	1.0103698	1.0804334	1.2453914	1.3392295	1.1421157	1.1728779	1.1018192	1.1728346	1.0846041	1.1014572	1.0856451	1.0870974
Cyclin G	1.1006051	0.89971274	0.8430885	1.0966669	0.8715596	0.8715596	0.8715596	0.8715596	0.8715596	0.8715596	0.8715596	0.8715596	0.8715596	0.8715596	0.8715596
Hypoxanthine-thymine phosphoribosyltransferase	1.0773463	1.0449746	1.3378214	1.2211837	1.2606891	0.822448	1.0284543	1.0284543	1.0284543	1.0284543	1.0284543	1.0284543	1.0284543	1.0284543	1.0284543
Tissue inhibitor of metalloproteinases-1	1.018447	1.0979167	1.0103698	1.0804334	1.2453914	1.3392295	1.1421157	1.1728779	1.1018192	1.1728346	1.0846041	1.1014572	1.0856451	1.0870974	1.0870974
IL-1	1.3193542	0.8875812	1.0900883	1.0564907	1.082817	1.082817	1.082817	1.082817	1.082817	1.082817	1.082817	1.082817	1.082817	1.082817	1.082817
Ribosomal protein S9	1.1624703	0.98141515	1.2308808	1.0536163	0.9780007	1.0866118	1.0866118	1.0866118	1.0866118	1.0866118	1.0866118	1.0866118	1.0866118	1.0866118	1.0866118
Heme oxygenase	0.88018817	1.0948458	1.2845437	1.0805423	1.1430335	1.0947127	1.1638529	0.7487025	1.0395959	0.9081442	0.8310824	1.2104739	1.3497748	0.9444869	0.9444869
Ribosomal protein S8	0.8825959	1.1456728	1.3415077	1.0837422	0.9684804	1.0903369	0.8716376	0.7852554	0.8040638	0.9081449	1.1514633	0.87113893	0.9208201	0.9208201	0.9208201
Ribosomal protein S17	1.1192255	0.9958784	1.1306316	0.8374724	0.8872283	1.0195711	0.7829655	0.8821167	1.0080154	1.0240529	1.1324502	0.8665789	0.8923112	0.8923112	0.8923112
Nucleoside diphosphate kinase beta isoform	1.212573	1.1888274	1.2065467	1.1322062	1.2894285	1.0795428	0.8778254	0.9142729	1.0003084	0.8864883	1.1177275	1.00181	1.0749851	1.0749851	1.0749851
Phase-1 RCT-121	0.9305875	0.8176245	0.7378192	0.9220102	0.9875999	1.0572119	0.8077429	0.8077429	0.8077429	0.8077429	0.8077429	0.8077429	0.8077429	0.8077429	0.8077429
14-3-3 zeta	1.0093946	0.8631851	0.789354836	1.0484487	1.2461547	1.0916127	1.09235	1.0334224	1.0543782	0.9403656	1.0484194	1.0651486	1.1293201	1.1293201	1.1293201
60S ribosomal protein L6 (alternate clone 1)	0.8687322	1.2152544	1.3048295	1.0805689	1.1568433	1.2227398	0.93934214	1.3305948	1.0252354	1.0467294	1.5726534	0.9921544	1.0438359	1.0438359	1.0438359
Beta-tubulin, class I	1.22554	0.9271002	0.8024876	1.1768804	1.0840712	0.8472833	0.7209882	1.1507015	0.8622208	0.8776367	1.5565313	0.8808783	0.90513545	0.90513545	0.90513545
Organic cation transporter 3	0.95618956	0.7662027	0.8640565	0.9413177	1.2875036	1.2486745	1.0268716	0.9700344	0.8751704	0.88489497	1.1052897	0.86014920	0.8084476	0.8084476	0.8084476
Beta-actin	1.1514144	0.8571841	1.0549438	0.86992354	0.9976949	1.1760333	0.8791769	1.3548365	0.8731178	0.8649273	0.960727	1.053862	1.053862	1.053862	1.053862
Cathepsin S	1.0051111	1.1107189	0.7057033	0.8894539	1.0458715	1.5310528	1.141958	0.7020339	0.7921873	0.78803456	0.79451656	0.7615979	0.8903437	0.8903437	0.8903437
Blutheol reductase	1.0037645	1.0003603	0.8620805	1.0336281	1.1076303	1.1471075	1.1112258	1.3207167	1.1707384	2.2456784	1.0223019	1.111059	1.155549	1.155549	1.155549
Phase-1 RCT-154	0.9849173	0.8734494	1.0324418	1.0825689	1.0178943	1.0355182	1.0355182	0.736246	1.0624081	1.0380309	1.0440187	0.8624767	0.8624767	0.8624767	0.8624767
Phase-1 RCT-293	0.91421854	0.8194093	0.8116044	0.8696101	1.0475659	1.2823628	1.2086923	0.75042254	1.027835	0.9081609	0.74827915	0.961259	0.9734273	0.9734273	0.9734273
Anneirin V	1.0701453	0.8820123	0.84534186	1.031034	0.8638559	0.8928965	1.1249338	0.93527573	0.91837454	0.9631725	0.9389845	0.91760457	1.0609528	1.0609528	1.0609528
Complement factor I (CFI)	1.0725908	1.3519135	1.3253628	1.0077788	0.9242676	1.0987214	0.8127123	1.1155517	1.1928617	1.053763	0.8917794	0.93233655	0.92345124	0.92345124	0.92345124
Phase-1 RCT-276	1.1143248	1.1285628	1.0717786	0.9044432	1.1362799	1.5161462	1.1155517	1.1928617	1.1928617	1.1928617	1.1928617	1.1928617	1.1928617	1.1928617	1.1928617
Tyrosine aminotransferase	0.871251	1.2717332	1.1313412	1.0522158	0.8879897	0.605521	0.8424976	0.74819513	1.0764493	1.1875338	0.7350773	0.7890496	0.8904016	0.8904016	0.8904016
Glutathione peroxidase	0.83448275	1.1657331	1.295789	1.1316427	1.0027109	0.9558576	1.169736	0.5748718	1.0694077	0.88524475	0.57607178	1.0052976	1.108901	1.108901	1.108901
Histidine-rich glycoprotein	0.8159991	0.8281776	1.5905781	0.6126571	0.7770817	0.7688738	0.60941039	0.565618	1.1642865	0.8849132	0.83442056	1.1259401	1.1259401	1.1259401	1.1259401
Carbonic anhydrase III, sequence 2	0.7685332	0.8248482	1.0125692	0.7284984	0.60597277	0.75789914	0.62621034	1.1574067	0.88443315	1.1208654	0.8478932	0.77029574	1.081102	1.081102	1.081102
Phase-1 RCT-92	0.8684479	0.9733552	1.1423397	0.8649471	0.80031824	0.69414586	0.7097069	1.7949004	0.8414125	1.0814937	1.186625	0.97888637	1.06108	1.06108	1.06108
Transitional endoplasmic reticulum ATPase	0.9980205	0.7335954	0.958183	0.7986146	0.9194169	0.8053101	0.8686795	1.0197228	0.947181	0.89914485	0.8905508	1.021182	1.021182	1.021182	1.021182
Phase-1 RCT-88	0.82412806	0.80915743	1.1416589	0.78851854	0.6773969	0.80174804	0.759955	1.9175085	0.86117508	1.136716	0.8986897	0.822388176	1.0685846	1.0685846	1.0685846
Phase-1 RCT-296	1.0415963	1.3423188	1.029016	0.80465	0.9561637	1.1063147	1.2643765	0.5098774	1.144042	0.98703386	0.3655208	0.8991394	0.899132	0.899132	0.899132
Phase-1 RCT-161	1.804114	0.7459004	0.87106305	0.77686785	0.8880734	0.82739235	0.6821356	0.7442029	1.0231028	1.0540721	0.7784036	0.8756756	1.021847	1.021847	1.021847
Glutathione S-transferase theta-1	1.1374291	1.018448	1.287849	1.3138528	1.1410908	0.88080275	1.148066	0.8885713	0.9801583	0.98012923	0.9290785	0.9908105	1.0586234	1.0586234	1.0586234
Phase-1 RCT-168	1.0171533	1.018506	0.8768044	1.1750945	1.2606905	1.1084851	1.1714007	0.905802	1.070591	0.984038	0.984038	0.92543	0.83064724	0.83064724	0.83064724
Phase-1 RCT-182	0.8181954	1.074848	0.7265748	0.9384985	0.8138862	0.9081943	0.8386184	0.95551234	0.938428	0.9198968	1.0043747	0.891586	1.008597	1.008597	1.008597
JNK1 stress activated protein kinase	1.0829585	1.290233	1.2216708	0.7817833	0.8552884	0.51815395	0.86903548	1.9482772	0.8930599	0.83797848	2.2034755	1.1260844	0.888862	0.888862	0.888862
Phase-1 RCT-41	0.8949954	1.0374745	0.9990448	1.0707848	0.86331187	0.88841987	0.8686365	0.87847806	1.0480094	0.9340932	0.99323008	0.94493484	1.0537253	1.0537253	1.0537253
Phase-1 RCT-33	0.78480794	1.3823089	1.0233452	1.3413688	1.3698186	1.3924003	1.888304	1.1978105	1.0885994	1.0166495	1.0478895	0.98305344	1.0277511	1.0277511	1.0277511
Phase-1 RCT-178	1.0773036	0.74884795	0.8324997	1.0512848	0.66607106	0.69604845	0.7859582	1.0232289	1.0105608	0.9548036	0.8911283	0.99430384	1.1270665	1.1270665	1.1270665
Apolipoprotein CIII	1.0153701	0.725827	1.2029722	1.2905206	1.0782365	0.7853958	0.88036376	1.0357046	0.9312711	1.0372055	1.0454813	0.896011	0.9478464	0.9478464	0.9478464
Phase-1 RCT-68	0.969441	1.0781463	0.8890888	1.0413487	0.8002448	0.8093842	0.8243842	1.7796776	1.1796776	1.1796776	1.1796776	1.1796776	1.1796776	1.1796776	1.1796776
NADH-cytochrome b5 reductase	0.75539184	1.8027588	1.2889368	1.2594778	0.97045153	0.933639	1.1104571	0.58255334	1.0443331	1.127175	0.76423407	1.0806225	1.0267262	1.0267262	1.0267262
Alpha 1 - inhibitor III	0.937301	1.0770602	1.0531849	1.2937601	0.85916215	1.1120485	1.030796	0.44557698	1.082495	1.0688339	1.0578655	0.82115414	1.0839907	1.0839907	1.0839907
Phase-1 RCT-233	0.96539184	1.0970396	0.8580184	1.1246686	1.0401813	0.7430727	0.872081	1.2288344	1.2063017	1.0088339	1.0578655	0.82115414	1.0839907	1.0839907	1.0839907
Paraoxonase 1	1.1638886	1.0827893	1.1573358	0.8559121	0.73305297	0.768317	0.82056034	0.60178685	0.78911506	0.78911506	0.60662327	0.8613967	0.85296007	0.85296007	0.85296007
Presentin-1	0.84507855	1.1165687	1.0307845	1.2780199	0.8608848	1.1310015	0.96784025	0.44512348	1.0180442	0.98840413	0.4831508	0.7001473	1.1434069	1.1434069	1.1434069
Apolipoprotein C1	0.8307741	1.0105821	0.88814305	0.8573749	0.8767185	0.86186005	0.70984286	0.8883393	1.0883608	1.0883608	0.8326177	0.88770425	0.93078	0.93078	0.93078
Cytochrome P450 2C23	0.88309167	1.2303436	1.0905607	0.8677144	0.923413	0.79185708	0.8902027	0.9046573	0.89330964	0.832943	0.3326177	0.88770425	0.93078	0.93078	0.93078
Phase-1 RCT-227	0.92983563	1.0482994	1.0667882	1.0427155	0.69707173	0.81480545	0.7082246	0.9308652	1.3250047	1.2162271	1.1662309	0.6487746	1.0611815	1.0611815	1.0611815
Hepatic lipase	0.71882586	1.072234	1.1745728	1.0522323	1.0569953	0.7248185	0.88817465	0.7059069	0.8327682	0.8327682	0.9454204	0.8239625	0.89303556	0.89303556	0.89303556
Phase-1 RCT-184	1.0173072	0.7083401	0.88818914	0.8641743	1.1343135	0.9683131	0.85069635	0.7028846	0.78978455	0.85971888	0.7256453	0.94943138	0.80814537	0.80814537	0.80814537
Multidrug resistant protein-2	1.100803	1.1465017	1.1847308	1.0720819	1.0207369	1.3565736	1.1471981	0.7525097	1.0546981	1.1356161	1.1907235	1.2142371	1.1345975	1.1345975	1.1345975
Insulin-like growth factor I, exon 6	0.7053328	1.350137	1.1882974	1.4938877	0.89071825	1.1524089	1.016287	0.86267538	0.75008905	0.8497729	0.6310394	1.0581223	0.8365342	0.8365342	0.8365342
N-hydroxy-2-acetylaminofluorene sulfotransferase (S1C1)	1.0822658	0.906577	1.5283059	1.25766	0.7484678	0.79868984	0.7476674	0.4999706	0.76367	0.8					

Phase-1 RCT-173	1.0552132	0.6118808	0.76622275	0.86114717	1.1721451	0.84817266	0.96364664	1.0311908	1.1186227	1.1465867	1.3401563	1.0833035	1.0138404
Ubiquitin conjugating enzyme (RAD 6 homologue)	1.0792493	0.9655548	1.3145353	1.1129712	1.0816532	1.0739564	0.93413216	0.9770984	0.89125127	0.86055875	1.0887081	0.869923	0.8533623
Ribosomal protein L13A	0.9578014	1.3555866	1.3284154	1.1681536	1.322888	1.5191462	1.1070937	1.1658098	0.87843055	1.0357401	0.834524	1.0512401	0.9790464
Phase-1 RCT-144	0.8137931	0.96148655	0.91275098	1.006048	0.94939538	1.0227901	1.0251813	1.0255678	0.9634786	0.8978191	0.8537398	0.9858854	0.9858854
C-H-ras	0.99889916	1.1157527	1.0816742	1.0427095	1.0428811	1.3799739	1.1550258	0.87255408	0.90051778	0.8680759	0.9287081	1.0105093	1.0105093
Vascular monocamine transporter (VMAT)	1.031778	0.95888484	1.0215509	1.0713649	1.0713649	1.0804332	1.1273782	0.79252388	1.088735	1.0717688	0.9107034	1.032596	1.2489508
Phase-1 RCT-273	1.0043788	0.7310044	0.7884534	0.82138294	0.8910449	1.13814	1.0711095	0.9713084	1.0815825	1.0837431	1.2837578	1.1164382	1.1164382
Phase-1 RCT-230	0.91276747	0.7029139	0.66231544	0.8071657	0.9087213	1.2868104	1.0883837	0.9334081	1.020165	1.0030453	1.009585	1.192232	0.986957
Phase-1 RCT-174	0.98806293	0.8988037	0.6427733	0.7858821	0.8126789	1.1749539	1.1749539	1.1001395	1.063454	1.0093201	1.0775284	1.0673481	0.9862071
Phase-1 RCT-80	1.0053028	0.7305028	0.68013924	0.7899262	0.81983215	1.3017298	1.0224246	0.8618212	0.96465707	1.0490593	0.8904475	1.176105	0.8821417
Phase-1 RCT-158	1.0033777	0.66266998	0.6430023	0.8697749	0.8754368	0.8643414	1.0835888	0.98339105	0.9845522	0.9705071	0.98449018	0.98449018	0.98449018
Deoxycholate kinase	0.9347988	0.8323244	0.871167	0.8112581	0.825245	1.117828	1.181223	0.79273015	1.0901653	0.980591	0.8606382	1.012331	1.047818
Inositol polyphosphate multikinase (IpMK)	1.0385348	0.7807472	0.7417109	0.93920234	0.8721553	1.273741	0.9434568	0.81802767	1.0030332	0.9100332	1.085862	0.93920606	0.93920606
Neuronal cell adhesion molecule (NCAM)	0.9628853	0.8940955	0.80800258	0.8288868	0.85909128	1.4370474	1.1303206	1.2070001	1.0128479	0.928008	1.091932	1.1869881	1.0859881
Hepatocyte growth factor receptor	1.0311103	1.0176553	0.98106006	0.9621641	0.82488874	1.0040905	0.8256459	0.8160277	0.9507742	0.957807	0.68041834	1.0270528	1.0068178
Empty	1.0052345	0.62332084	0.4594121	0.6925226	0.73755646	0.9945525	1.0685688	0.9520636	1.0191768	1.0352802	0.68041475	1.072806	0.92423266
Dopamine receptor D2	1.0715158	1.1804308	1.4754933	1.0543487	1.0871975	0.85407877	1.0307853	1.2843703	0.905013	0.8932766	1.5753419	1.0723441	1.1468903
Phase-1 RCT-51	0.8808265	0.8712714	0.7227955	0.83584195	0.8261996	0.9497265	0.9888849	1.040177	0.9203301	0.8553702	1.0706378	0.9635605	0.92760086
Four repeat ion channel	0.987892	0.9250318	0.8023777	0.94458484	0.9325537	1.0914093	0.9528897	0.7685605	0.9422477	0.7042514	0.8511699	1.0263788	1.0160078
Adrenomedullin	1.0277559	0.86088488	0.6131656	0.7364663	0.7607033	1.141374	1.1320628	0.7285608	0.950401	0.89038125	0.84923285	1.142948	1.0518132
Caveolin-3	0.9457956	0.8990455	0.71381485	0.94678538	0.7808808	1.0730811	0.8776155	1.00426594	0.924542	0.9002416	1.047789	1.0846397	1.068842
Phase-1 RCT-129	0.99839735	0.82700596	0.87390097	0.884042	0.8009804	1.1386045	1.0491875	0.8808556	1	0.9594316	1.017189	1.070114	1.0052443
Phase-1 RCT-94	1.0462282	0.78390807	0.6754559	0.8474203	0.8556353	0.9381205	1.0438473	0.9525856	1.0288855	1.0245498	0.8541473	1.0807109	1.0052443
Sarcoplasmic reticulum calcium ATPase	1.1780305	0.82228124	0.85085034	0.87612677	0.8820875	0.8805815	1.0229168	1.2205182	0.86026576	1.0331179	0.9828774	1.0400127	1.0085683
Phase-1 RCT-79	0.9578004	0.8742768	1.0171866	1.0143231	0.9530538	0.8846181	0.9883693	1.0371883	1.0393306	1.0307539	1.073142	1.223326	1.050311
Phase-1 RCT-151	0.9578004	0.8742768	1.0171866	1.0143231	0.9530538	0.8846181	0.9883693	1.0371883	1.0393306	1.0307539	1.073142	1.223326	1.050311
Phase-1 RCT-70	1.1285383	1.1582197	0.92805575	1.0735998	0.88643694	1.0013883	1.6541489	1.2163665	1.0119009	1.0695235	0.8494703	1.012866	0.9592851
Phase-1 RCT-150	1.089886	0.6824075	0.60356947	1.00378	0.9323245	0.9256057	1.1569172	1.0924673	1.0313172	1.126511	1.06357205	1.018327	1.1464034
25-hydroxyvitamin D3-1 alpha-hydroxylase	0.9186593	0.8639081	0.60270484	0.84068357	0.91743124	0.9352877	1.1569172	1.0924673	1.0313172	1.126511	1.06357205	1.018327	1.1464034
Phase-1 RCT-119	0.8945183	1.1509684	1.0376158	0.92433675	0.94892085	0.76170317	0.83028523	1.222683	0.9174447	0.9274074	1.697461	1.0151501	1.1418925
Peroxisomal 3-oxoacyl-CoA thiolase 2	1.027597	1.195168	1.2719388	1.4588041	1.3968863	1.2833775	1.0844903	1.114442	1.10888	1.214488	1.235867	1.03023	1.116809
Phase-1 RCT-146	0.988756	0.7160228	0.56343095	0.80872214	0.99532346	1.09657765	1.1321168	0.9844224	1.1122883	1.008534	0.9148602	1.100153	1.0484133
Superoxide dismutase Mn	1.0397356	1.2440203	1.1485652	1.158105	1.178753	1.2372295	1.0310848	1.2144467	1.0841191	1.2748638	1.17659	1.0935622	1.1280687
Phase-1 RCT-115	1.0857573	0.878273	0.7931718	1.0008773	1.0016844	1.3165356	1.2835406	0.8904852	0.9844727	1.0042285	0.8471323	1.006463	0.980607
Alpha-1 microglobulin/bikunin precursor (Ambp)	0.886622	1.126434	1.3022813	1.0783532	0.958855	0.873772	0.785792	0.8863753	1.0284667	0.8371324	0.85456034	0.89012223	1.00206
Phase-1 RCT-18	0.9027972	0.87617004	0.72912294	0.9108948	0.89550734	1.2709784	0.90365105	1.0524883	0.88780345	0.9591509	1.0556915	0.99641248	1.0011444
Macpin	1.149484	0.8145124	0.79766786	0.82510055	0.88523863	1.165852	1.0866067	0.70421904	0.91589135	0.832753	0.88923384	0.9115193	0.9309708
Decorin	0.8841205	0.70045378	0.57717556	0.73012924	0.9108954	1.167587	1.2589258	0.8699452	1.0842326	0.8022826	1.0876392	1.3591276	1.0928298
Retinoid X receptor alpha	1.0511998	0.82438373	0.8774513	0.978855	0.8945209	1.0338883	1.3550889	1.2674531	1.1328133	1.1569464	1.1477528	1.2824607	1.2824607
Cellular nucleic acid binding protein (CNBP)	0.88922137	1.0491668	0.8088917	1.0509377	1.1475881	1.0090241	1.0382669	1.2391814	0.98438466	1.0348396	1.2509111	1.0199712	0.97873283
NADPH cytochrome P450 oxidoreductase	1.2450786	1.0817676	1.0241425	1.1602868	0.8333098	1.0015423	1.041032	1.9332035	1.4855864	1.3014262	1.4614782	1.197535	1.700171
Malic enzyme	0.8533807	1.008457	0.64839288	1.1331443	1.03208	0.8425674	1.1357837	0.729756	0.9081613	0.8055069	1.0762576	1.0845646	1.2889344
Caspase 1	1.0017105	0.8413789	0.9177921	0.91747208	1.0058931	1.0592046	1.1357837	0.729756	0.9081613	0.8055069	1.0762576	1.0845646	1.2889344
Cyaldin C	0.9771981	0.9601198	0.8488863	0.788917	0.88453046	0.8878274	1.1151911	1.0323927	0.9778879	0.8996603	1.0959877	1.131387	1.1078373
p53/CDC	1.0450071	1.052323	1.0092947	1.2670685	0.9050028	0.9174748	1.2282223	0.75535667	1.0527911	0.8786633	0.8488664	0.83535163	0.87688525
Poly(ADP-ribose) polymerase	1.0048382	0.8388988	0.8770874	1.100284	1.1133693	0.94470507	1.0369005	1.1788635	1.0000179	1.0382776	1.2817653	0.95625128	0.96910626
Tissue plasminogen activator	0.820228	0.86766034	0.7834409	0.8610802	1.1294761	1.0097779	0.7997082	1.6838435	1.16404	1.3477398	1.0354437	1.0102112	0.9476227
Multidrug resistant protein-1	1.1057808	1.3041042	1.1868733	1.2965623	1.0081984	1.2680602	1.1083159	1.6839944	1.3259294	1.3118038	1.257452	1.435819	1.3870382
Phase-1 RCT-207	0.97832257	0.5904763	0.670706	0.9001983	1.0414084	0.82880057	0.8904528	1.038498	0.975465	1.1291574	1.1841198	1.0577494	1.0088662
Phase-1 RCT-181	1.0812089	0.90784615	0.8269895	1.0235031	0.9100325	0.93158886	1.0500054	1.4644052	1.0825462	1.0825462	0.9901527	1.03371455	1.0338823
Gap junction membrane channel protein beta 1 (Gjb1)	1.4209006	1.4309058	1.2693366	1.203281	1.066205	1.1838021	1.5648888	1.2093308	0.969555	1.038753	0.9564044	0.94608465	1.0485897
Aquaporin-3 (AQP3)	1.0309283	0.84474355	0.66270624	0.927022	0.8128711	0.86562563	0.9512687	0.94420743	1.2830748	1.12413	1.1251386	1.0184328	1.0527695
Myelin basic protein	0.76294047	0.94189384	1.2013653	1.081826	0.9306982	0.95667157	0.85667157	0.9535831	0.8052381	0.8477628	0.8477628	0.93037426	0.93037426
Calgranulin B3	0.8784131	0.67726076	0.8031379	0.98003443	1.0235938	0.9045925	0.9689179	1.0743072	1.0722929	1.1077468	1.1081025	1.0427561	1.0292861

Table 30

Phase-1 RCT-156	1.0602802	1.1461048	1.3577694	1.2326924	1.0604557	1.0469296	0.8932748	1.0348014	1.0763147	0.9753848	0.9278439	0.91130686	1.0056305
Proteasome activator 28 alpha	1.0842074	1.1028472	0.98874835	0.9886231	0.7876244	1.1209308	1.0841697	0.7272079	1.1476877	1.0082513	0.8609259	1.1255560	1.1285703
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 h: yes=naec, necrosis observed; yes=both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 26)													

Table 30

Table 30

[illegible]

Phase-1 RCT-68	1.0733877	1.1247232	1.2160428	1.0274911	1.0298733	1.1829813	1.088592	1.1477123	1.0007375	0.8887373	0.9081954	0.9644307	1.0135814
Cyclin G	0.8149769	1.0916568	1.1057799	1.10502	1.10502	1.1258192	2.2751116	2.1543946	1.026325	0.9581546	0.97052157	0.98722484	1.0233696
Hypoxanthine-guanine phosphoribosyltransferase	1.0055595	1.2431145	1.005193	0.9601889	1.0062984	1.1204743	0.8411888	0.8401568	0.42788319	0.594439	0.26889339	0.6990942	0.8591382
Tissue inhibitor of metalloproteinases-1	0.8872122	0.9620084	0.9481076	0.9524473	0.9872375	1.0510727	1.2522575	1.2632272	1.5881018	1.4062188	1.688433	1.4123386	1.3060293
ID-1	0.9514866	0.9854987	0.9475928	1.3488108	0.9897707	1.0517309	1.045002	1.7645321	0.9949503	0.8823071	0.8108667	0.8644031	0.83391434
Ribosomal protein S9	0.8403275	0.9512945	0.86739437	0.962283	1.0143988	1.0319083	1.1237858	1.0757594	1.0058603	0.83758	1.2658903	0.97924066	1.0527427
Heme oxygenase	1.0112836	1.2160974	1.0824288	0.9250774	1.0467008	1.0365697	1.3472687	1.5933642	1.5933642	1.2488883	1.35694	1.2488883	1.1877031
Ribosomal protein S8	0.90556741	0.8947605	1.0050572	0.7716033	1.0899737	0.9841762	1.266051	1.3547937	2.3672738	1.881327	1.700357	1.6027735	2.0555481
Ribosomal protein S17	1.1567799	1.1021272	1.1746875	0.95460083	1.1738933	1.2171765	1.6201687	1.4182693	1.9475682	1.9475682	1.9475682	1.9475682	1.9475682
Nucleoside diphosphate kinase beta isoform	0.9431689	1.2036337	1.2661082	1.0030787	1.0543342	1.2017149	1.2548708	1.1288644	1.2837784	1.927335	1.058292	1.0080771	1.2025845
Phase-1 RCT-121	0.91700464	0.856737	0.90330825	0.9037723	0.8821856	0.7802649	1.019453	0.79054634	0.64416707	0.7810929	0.73898074	0.6376297	0.73898074
14-3-3 zeta	0.970657	0.947924	0.98878183	1.1384587	1.0842174	1.0845398	1.229505	1.1600542	0.6725071	0.73980784	0.6376297	0.73898074	0.73898074
60S ribosomal protein L8 (alternative form 1)	0.9793016	1.0856812	1.0229818	0.8948374	1.0386748	1.00738415	1.2118921	1.1679968	1.5932895	1.5849108	1.7281845	1.3823840	1.7181854
Beta-tubulin, class I	1.124271	1.2748728	1.3127894	0.8600973	1.1472835	1.3523692	0.6888747	0.8277706	1.0521299	0.8478207	0.8178373	0.8378166	1.0113204
Organic cation transporter 3	0.90513295	0.98655874	0.9842768	0.84910434	1.3253903	1.3183959	0.7888651	0.7767342	0.5900502	0.5154892	0.4382724	0.2040404	1.0897277
Beta-actin	0.9148535	0.80920464	0.9222284	1.1371609	0.942809	1.0125045	0.7888651	0.7767342	0.5900502	0.5154892	0.4382724	0.2040404	1.0897277
Cathepsin S	1.0817692	0.95844114	1.1216512	0.85041638	1.183737	0.86143614	1.4111843	1.1557224	1.8395395	1.459947	1.0876534	1.0720771	1.4700941
Bilirubin reductase	1.2522286	1.8176845	1.5593568	1.343723	1.286358	1.0572426	1.3080621	1.4243307	0.91268873	0.80953074	0.802802	0.68814417	0.87202785
Phase-1 RCT-154	1.059809	1.0486887	1.2767032	1.1020063	1.3082018	1.0572426	1.3080621	1.4243307	0.91268873	0.80953074	0.802802	0.68814417	0.87202785
Phase-1 RCT-293	1.1424673	0.9768903	1.0513705	0.96394527	0.97406805	1.1005922	1.7123023	1.4897474	2.0352284	1.50768	1.5778884	1.7012645	1.5405082
Adrenin V	1.1658885	1.0738853	1.2149216	1.0365531	1.4713033	1.1040015	1.0785352	0.84505075	1.0352243	1.4242548	1.2257704	0.89394356	0.9338028
Complement factor I (CFI)	1.2741333	1.1442022	1.13363	1.0408055	1.1889015	1.0670668	2.059184	1.6608943	1.4202145	1.1704276	2.102724	1.3001426	0.85738343
Phase-1 RCT-276	1.085486	1.2185404	1.1364913	0.9403848	1.088575	0.7072893	0.7893084	0.8187484	1.0781028	0.9256514	1.459947	1.0876534	1.0720771
Tyrosine aminotransferase	0.8080855	0.9688792	1.0080508	0.7857274	0.93031245	0.70218066	0.7893084	0.8187484	1.0781028	0.9256514	1.459947	1.0876534	1.0720771
Glutathione peroxidase	0.926477	0.7964015	1.2408594	0.9925157	1.2358407	1.0478541	0.63249934	0.5745975	1.6184528	1.9474727	1.785726	1.6889192	1.783049
Histidine-rich glycoprotein	1.5604036	0.9584803	1.1985831	0.9637657	0.9971638	0.7499088	0.78791344	0.7718758	1.0912781	1.5944985	1.4553174	1.6188726	1.5838941
Carbonic anhydrase III, sequence 2	1.5493338	0.9745181	1.2970294	0.99150956	0.9757802	0.75935615	0.7351659	0.62529594	0.94198004	1.3635281	1.24108	1.4481087	1.6380167
Phase-1 RCT-92	1.5289287	0.98340225	1.256884	0.9603306	0.976803	0.7622503	0.6650442	0.63598833	1.0770343	1.3470328	0.36314978	1.4417188	1.5084212
Transitional endoplasmic reticulum ATPase	0.97898078	1.026688	0.94722974	1.2303447	0.9720552	1.1889459	0.89424623	0.85419184	0.86578013	1.0655032	1.4037435	1.5664403	1.3714852
Phase-1 RCT-68	1.5297104	0.9562888	1.2103308	1.040461	0.9585869	0.89424623	0.85419184	0.86578013	1.0655032	1.4037435	1.5664403	1.3714852	1.3714852
Phase-1 RCT-161	1.1728938	0.9323848	1.2252274	0.9418161	0.9532532	0.89989566	0.89989566	0.89989566	0.89989566	0.89989566	0.89989566	0.89989566	0.89989566
Glutathione S-transferase theta-1	0.8698184	0.9452495	0.8897358	0.966358	0.98570085	1.0449287	0.7928948	0.6492124	0.6840228	0.9184123	0.8703334	0.8285537	1.0754044
Phase-1 RCT-168	1.060982	1.1275443	1.1263124	1.0651596	1.1450061	0.98286146	1.0657907	1.151922	1.2268781	1.0687802	1.2371038	1.1824371	1.5599313
Phase-1 RCT-182	1.500924	1.0319716	1.2134961	0.83753306	0.9989044	1.0875224	0.84818524	0.8555263	1.0584668	1.0687802	1.2371038	1.1824371	1.5599313
JNK1 stress activated protein kinase	0.81911504	0.80438143	0.7580049	0.8138664	0.83546877	0.85403085	1.473723	1.4773842	1.2649723	1.3372634	1.5757578	1.3753843	1.9681849
Phase-1 RCT-61	1.2548335	1.2211881	1.3015895	1.028234	1.1672418	1.0734495	1.0200853	0.9719168	0.9474717	0.9932416	1.4390533	1.1517357	0.9825283
Phase-1 RCT-33	0.852085	0.880244	0.83589095	0.9723309	0.94724997	0.93557878	0.7530695	0.7784027	1.9686188	2.0105865	1.4192468	2.0970068	2.9340434
Phase-1 RCT-178	1.170049	0.7818943	0.90418607	1.3111142	1.0994558	1.3384464	0.78056257	0.8946451	0.6738197	0.6331698	0.5055557	0.7225511	0.9301174
Apolipoprotein CIII	1.119457	1.0550059	0.9743004	1.0380588	0.8302062	1.0380588	0.8302062	0.8302062	0.8302062	0.8302062	0.8302062	0.8302062	0.8302062
Phase-1 RCT-86	1.650281	1.418087	1.2916908	1.1578043	1.1471956	0.9721188	0.73110783	0.7195701	0.88815956	0.9437602	1.143131	1.0453062	0.9680816
NADH-cytochrome b5 reductase	1.1265686	1.2660639	1.1210843	1.248196	1.2653582	1.0807288	0.7027632	0.5931343	0.8439543	1.0129685	1.059461	1.0772288	1.0252224
Alpha 1 - inhibitor III	1.4800443	0.93272836	1.0913492	0.8101105	0.9765982	0.8104477	0.29446733	0.27552816	1.705521	1.552342	1.5072827	1.5872284	1.0048092
Phase-1 RCT-233	1.854387	1.2333016	1.1610808	0.83075845	1.072438	1.1347391	0.8549606	0.89989533	1.1425129	1.1628005	2.058178	1.064868	0.79288178
Paraoxonase 1	0.8562416	0.7633408	0.950634	0.6476971	0.99219938	0.6543833	0.55006524	0.5864778	1.1449146	1.1628005	2.058178	1.064868	0.79288178
Pretilin-1	1.4842103	0.87424004	1.08995	0.83143487	1.1203228	0.6226333	0.28868996	0.27322698	1.1765184	1.6732337	1.820772	1.4385278	1.0271826
Apolipoprotein C1	1.2234246	0.7547453	0.7848338	1.1778928	1.1015818	1.0168158	0.6568503	0.5800274	0.8270923	1.0211805	1.268938	1.2281835	1.987651
Cytochrome P450 2C23	1.0560472	1.0918918	1.1271523	0.88135024	0.983789	0.8615889	0.80076126	0.7508113	1.111095	1.305496	0.7714883	1.8157617	1.267201
Phase-1 RCT-227	1.0614043	1.1983253	1.0302552	0.79232043	0.89563254	0.9708971	0.888321	0.9003928	0.8003928	0.8003928	0.8003928	0.8003928	0.8003928
Hepatic lipase	0.8384678	0.9004035	0.9022867	1.0051268	1.0298674	0.9708971	0.888321	0.9003928	0.8003928	0.8003928	0.8003928	0.8003928	0.8003928
Phase-1 RCT-184	0.9781451	0.9359226	1.0072825	1.0012428	0.941135	0.87127084	0.7667281	0.80911683	0.7082774	0.7169574	0.6346221	1.0402565	0.8010564
Multidrug resistant protein-2	1.0686144	1.0286072	1.1038977	1.092324	1.1124308	0.9066558	0.7082774	1.1274763	1.2749358	1.3429558	1.3760002	1.0428587	1.0078014
Insulin-like growth factor I, exon 6	0.6983735	0.635076	0.6711259	0.7383164	0.7807326	0.55951434	0.6867304	0.5121244	2.3924198	1.6843566	1.2290379	1.7878871	2.9814765
N-hydroxy-2-acetylaminofluorene sulfotransferase (STC1)	0.8941402	1.0240856	0.8254803	0.7345083	0.8939316	0.8061073	0.4686131	0.6107769	1.4302275	1.0084444	1.5106228	1.0890022	1.1318651
Dynamin-1 (D100)	1.0184603	0.9598382	0.94838325	0.843387	0.90725213	0.8653567	0.8493086	1.062881	1.9373688	1.8360586	1.5303355	1.8607369	2.0465214
DNA polymerase beta	0.7699798	0.9429255	0.9928215	0.7780294	1.0684425	0.92508817	0.8151513	0.92058374	0.92058374	0.92058374	0.92058374	0.92058374	0.92058374

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Phase-1 RCT-173	0.812585	0.8278547	0.9287075	1.0382214	0.93812854	1.0144305	0.9465391	0.8521078	0.820755	0.8461554	0.51802236	0.6137975	0.8823456
Ubiquitin conjugating enzyme (RAD 6 homologue)	0.9146979	1.0526028	0.97417154	0.81591195	1.0105104	0.96143526	0.99708074	0.9748122	0.9618935	1.017154	1.317445	1.0642821	1.070513
Ribosomal protein L13A	0.8612575	0.7850285	0.83181685	0.8292339	0.7193449	0.84005555	1.4847899	1.4037677	1.6827603	1.8797423	1.5175907	1.9738642	2.0729485
Phase-1 RCT-144	1.1519938	1.104135	1.0688571	1.0416373	1.049675	1.0478411	0.97308197	0.97308197	0.9888064	0.876556	0.83413345	0.87118175	0.87118175
c-H-ras	0.9381188	0.964245	1.0505742	0.705163	1.0134837	1.0122149	1.6854476	1.427371	1.9808769	1.938885	1.0487771	0.8514824	1.0855764
Vesicular monoamine transporter (VMAT)	0.9638277	0.8787711	0.9276828	0.8555585	1.0265312	1.0115812	0.8510533	1.0421567	0.9225648	0.7212011	0.9894203	0.7420354	0.8117371
Phase-1 RCT-273	0.8801205	0.90162575	0.9276746	1.1040291	1.0059872	0.9824924	0.9824924	1.7168269	0.8956248	0.79254913	0.88045893	0.75388473	0.91084107
Phase-1 RCT-230	0.88002205	0.8696032	0.86962685	1.0705598	0.98858266	0.9816669	0.8556887	1.8206348	0.8484848	0.89394848	0.8484848	0.729853186	0.76858198
Phase-1 RCT-74	1.0124781	1.13033	0.8339263	1.0811688	0.88896334	1.203563	0.8556887	1.8206348	0.8484848	0.89394848	0.8484848	0.729853186	0.76858198
Phase-1 RCT-80	0.82581186	0.8108018	0.83215225	0.787622	0.9856372	0.8724003	0.84789522	2.0345407	0.636376	0.636376	0.636376	0.68120563	0.786215
Phase-1 RCT-158	0.9078247	0.91620517	0.9283157	1.2283118	0.91344017	0.86175677	1.13313	0.9830144	0.8018559	0.74704707	0.6515838	0.71164463	0.6907463
Deoxycholine kinase	1.0265978	0.97485244	1.0788254	1.3750744	1.0537841	1.0163734	1.1750084	1.8880757	0.72819375	0.71338867	0.6930224	1.0876343	0.878941
Inositol polyphosphate multikinase (Ipmt)	0.84430075	0.85078025	0.75140023	0.9663074	0.8641823	0.9150471	0.9398905	2.3693337	0.8775455	0.6091507	0.729078	0.5963548	0.89691287
Neuronal cell adhesion molecule (NCAM)	1.478389	1.2081728	1.487547	1.303594	1.0891553	0.8449288	1.6442393	1.4165339	0.87500256	0.867773	0.85950416	0.7068474	0.89773554
Hepatocyte growth factor receptor	1.0168226	0.9820895	1.1797844	1.317914	0.9891553	0.8449288	1.6442393	1.4165339	0.87500256	0.867773	0.85950416	0.7068474	0.89773554
Empty	0.9447047	1.041947	1.0894853	1.0572693	1.1758505	0.9758439	0.8875933	1.70721	0.53913724	0.6185738	0.77304	0.4794847	0.5870314
Dopamine receptor D2	0.885953	1.1006462	0.9087109	0.9871892	1.035571	1.0088634	0.7284627	0.745029	0.9108188	0.8918783	1.343483	0.90205246	0.87728107
Phase-1 RCT-51	0.9231808	0.91588584	0.9252718	1.0890476	0.91705143	0.8735077	1.0228119	1.3695781	0.9040893	0.84970254	0.84912	0.781524	0.8494944
Four repeat ion channel	0.8680751	0.8624242	0.804108	0.80141407	1.0384849	0.8503352	1.1464404	0.97274745	1.2138072	1.002594	1.0284574	1.0538374	1.184436
Adrenomedullin	0.8923671	0.8686532	0.96953194	1.008608	1.1183133	0.83587125	0.9166446	2.1726897	0.9748221	0.6256524	0.725807	0.540283	0.63082474
Ca ²⁺ channel-3	0.88733023	0.97433305	0.847236	0.89471277	0.9781808	0.96037685	1.052907	1.1968078	0.91076535	0.7535196	0.83024055	0.8803015	0.95654074
Phase-1 RCT-129	0.9017038	0.9010787	0.8314144	1.0771275	0.94350845	0.98430645	0.81188514	1.3240916	0.9108188	0.8212854	0.88975614	0.77162157	0.8884922
Phase-1 RCT-94	0.9865418	1.0854278	1.309082	1.1631288	1.2839031	0.9528744	1.0897533	1.0592641	0.9041638	0.8212854	0.88975614	0.77162157	0.8884922
Sarcoplasmic reticulum calcium ATPase	1.1271882	1.0830753	0.9268712	1.1268269	0.9933144	1.1671638	1.0568709	2.0725005	0.9108188	0.8212854	0.88975614	0.77162157	0.8884922
Phase-1 RCT-70	1.0040638	1.1494768	0.9834963	1.2768611	1.1226593	1.243032	1.147418	0.857663	0.9716913	0.8942417	0.8504289	0.9141843	0.9373773
Phase-1 RCT-150	1.0763744	1.2883311	1.5231162	1.6118898	1.5281153	1.0405053	1.2407305	1.0857137	0.96968134	0.63956374	0.5948803	0.7306366	0.87922704
25-hydroxyvitamin D3-1 alpha-hydroxylase	1.020128	1.1042868	0.98846515	1.3178119	0.87801325	0.88455628	0.9803826	1.0131778	0.5602355	0.6404801	0.5817499	0.54076916	0.87922704
Phase-1 RCT-119	0.8687175	0.7600515	0.80555584	0.8590325	0.9278497	0.83149666	0.7818175	1.2176012	0.5126884	1.3630714	1.0648053	1.2344266	1.4027688
Peridomol 3-keapoyl-CoA thiolase 2	0.9883217	1.0878154	0.81898985	1.4843572	0.8094707	1.425779	1.2512703	1.1289383	0.75543305	0.8038182	0.5865184	0.7045792	1.155587
Phase-1 RCT-146	0.9142813	1.0692461	1.0579285	1.2343382	1.2217687	1.0031877	1.0407086	0.9069168	0.9494533	0.85741854	0.7677939	0.6504979	0.8689551
Superoxide dismutase Mn	0.9278915	0.97875683	0.9605449	0.9710254	0.84291835	0.98123526	1.0734	1.2001358	0.8701694	1.5813742	1.5806687	1.5596822	1.8334927
Phase-1 RCT-115	1.20339	1.2358374	1.0939741	1.4701862	1.0248107	1.0581414	1.3072075	1.5801891	0.50981125	0.5031327	0.45276597	0.47814838	0.6828703
Alpha-1 microglobulin/bikunin precursor (Ambp)	1.2685648	1.2128223	1.3008173	0.923935	1.1542581	1.0581414	1.0351863	0.91710603	0.8772971	0.8527208	1.5145804	1.1600231	0.7863584
Phase-1 RCT-18	1.0314785	1.101404	0.89665123	0.9447369	1.0268946	0.9871405	0.7785218	0.78315824	1.0337275	0.83647704	0.9188765	0.9853316	0.9866203
Masspin	0.888702	0.8647002	0.875827	0.868908	1.0457643	0.8232077	1.0102582	1.7607828	0.7104025	0.81517038	0.7682543	0.7508351	0.7975866
Decorin	0.8882854	0.84871974	0.7445444	1.2510978	0.8526213	1.0843178	1.6084422	3.3317288	0.9703879	0.70833063	0.8586828	0.7028874	0.82855235
Retinoid X receptor alpha	0.8577282	1.1592744	1.1334659	0.907979	0.933587	1.0920752	1.3408824	0.9788596	0.71217084	0.8033805	0.8417671	0.878866	0.72512174
Cellular nucleic acid binding protein (CNBP)	0.80777884	0.8427888	0.86276844	0.59494868	0.7760497	0.85422805	0.9354788	0.87622854	1.7864739	1.4123272	1.1067689	1.3311784	1.5828806
NADPH cytochrome P450 oxidoreductase	1.4075465	1.4865165	1.4537816	2.2285554	1.3159152	1.4959964	1.5558021	1.3290731	0.97319204	1.0235246	1.0499107	0.974135	1.0871881
Malic enzyme	0.81607443	0.8692066	0.88432525	0.9118914	0.90050346	1.146344	0.98683174	0.6840319	0.9004252	1.0639608	1.0588808	0.7415478	1.1433388
Caspase 1	0.9488638	0.9375326	0.8897301	1.1882844	0.82824173	0.8357408	0.98683174	0.7662376	0.53580785	0.7228845	0.8333334	0.84215225	0.805841
Cystatin C	0.974733	0.9412973	1.0809817	0.98055424	1.0492852	0.8627404	0.72416276	0.8517085	1.7253051	1.916018	1.5475	1.6805317	1.5770854
p53/CDC	1.3405198	0.85771515	1.0946865	1.0658807	0.9900763	0.8692493	2.4584807	6.683583	0.7700139	0.7952437	1.4647888	0.5657392	0.8666197
Poly(ADP-ribose) polymerase	1.0385504	1.2084321	1.0491458	1.0684954	1.0784954	1.1868448	0.8588876	0.78314473	0.7682885	0.92813675	0.6722808	0.85924345	1.0418109
Tissue plasminogen activator	0.93991315	1.1014608	1.166615	0.98186216	0.98118605	0.8445485	1.126551	0.67073745	1.750767	0.9425674	1.0916919	1.0143509	1.1210393
Multidrug resistant protein-1	1.5589208	1.4011728	1.2459913	1.5350157	1.242927	1.6336164	2.888838	2.4482975	1.0848937	1.037828	1.0892708	0.8796876	1.0413111
Phase-1 RCT-207	0.9748009	0.9584449	0.9807327	1.2988082	0.9464148	0.8802389	1.8594643	2.122599	0.5376073	0.79425245	0.585082	0.73818123	0.7628108
Phase-1 RCT-181	1.2789565	1.0553284	1.1638631	1.0381162	1.1387185	0.8207261	1.1167748	1.002748	1.0008867	1.1098191	1.0328502	1.1720582	0.74285604
Gap Junction membrane channel protein beta 1 (Gjb1)	1.0182687	1.0899754	0.91009736	2.0220501	0.82578917	1.1605505	1.4808717	0.8345137	0.9122487	1.3053175	0.96975857	1.0173904	1.0599284
Aquaporin-3 (AQP3)	0.89651895	1.1353222	0.9500883	1.175147	1.033078	1.0603076	0.8706963	0.9364509	0.8768141	0.8034213	0.80235934	0.92458975	0.88765705
Myelin basic protein	0.783178	0.8124343	0.75805168	0.7580222	0.7620027	0.7620027	1.076885	0.8704337	0.8768905	1.0316701	0.931438	1.0534205	1.304501
Calgranulin B3	0.89838074	0.8304098	0.8807222	1.2234988	0.9884873	0.85757863	1.1809894	0.9839936	0.6553537	0.7838958	0.6918587	0.7784919	0.9132763

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Phase-1 RCT-158	1.0077113	1.0581586	1.1224232	0.9769208	1.1129731	0.99504628	0.84835406	0.6127188	0.95245844	0.9267378	1.0501037	0.94409128	0.93876247
Protease activator 28 alpha	0.97322047	1.0787289	0.98551454	0.93385943	1.0867007	1.1784227	0.88745457	0.90040344	0.84534093	0.7969485	1.1470321	0.84517556	0.68873108
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 hr: yes-necr, necrosis observed; yes-tooth, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 28)													

Table 30

Table 30. Expression Data for 72 Hour Timepoint

Phase-1 RCT-68	0.9458378	0.8880238	0.8518746	0.8751523	0.9003824	0.9617082	1.0382708	0.9321827	0.9253348	0.8746613	0.9426587	0.9281483	0.9915881
Cyclin G	0.96829706	0.8567171	0.8449502	0.76541626	0.73697556	0.6820087	0.6007189	1.4203159	0.9770284	0.89713484	0.9571078	1.0342280	0.97283142
Hypoxanthine-quantine phosphoribosyltransferase	0.3900977	0.9861875	1.123082	1.0028888	0.8737112	0.88747384	0.944659	0.9359564	1.704164	0.6071061	0.86063566	0.91605625	0.90077144
Tissue inhibitor of metalloproteinases-1	1.5001429	1.2321726	1.0628011	0.9754052	0.82824217	0.80567884	0.9877188	1.5298103	1.1764287	1.76585	0.9185304	0.9316917	0.97741973
10-1	0.85814453	0.9480329	0.8481462	0.8981462	0.9975947	0.8528868	0.75100625	1.0786	0.9769488	1.1903024	0.86646813	0.9468579	0.8579732
Ribosomal protein S9	1.0238551	1.6688213	1.23373	1.0630959	1.2335374	1.6967182	1.3010887	1.052258	0.9877843	1.056663	0.8455143	0.90137196	0.87131125
Heme oxygenase	2.2281592	0.69736526	0.9228379	0.7478414	0.8862444	0.8458195	1.0998931	1.0598931	1.265072	1.2650563	1.270329	1.0740331	1.2197115
Ribosomal protein S8	2.0284964	1.7117964	1.5111094	1.3435903	1.5718602	1.445578	1.2278337	0.83651084	0.9083278	1.4656074	1.3369387	1.0736387	1.2824403
Ribosomal protein S17	1.4631987	1.6819836	1.4334088	1.2677587	1.3359879	1.3400728	1.3259101	0.9071203	0.853744	1.4580019	1.2188142	1.2211833	
Nucleoside diphosphate kinase beta isoform	1.1355151	1.4654111	1.3503535	1.252334	1.3366554	1.2705928	1.4808562	1.004514	0.9711704	0.98908377	1.1468458	1.0075041	1.0217357
Phase-1 RCT-121	0.5377482	0.85279673	0.8368421	0.8265904	0.8994574	0.8122291	0.74904287	0.9692935	0.8713313	0.8968859	0.8743404		
14-3-3 zeta	0.8178148	0.7012078	0.8421465	0.774097	0.5606786	0.61694115	0.7109007	1.570292	0.95398938	1.3249217	0.97133703	0.96507674	1.22665049
ROS ribosomal protein L6 (alternates clone 1)	1.3384824	1.3337609	1.2111825	1.1840348	1.3582498	1.030918	0.9786785	0.938725	1.3470136	1.2537518	1.2357518	1.22665049	
Beta-tubulin, class I	0.188057	0.5588983	0.9814347	0.8066638	0.9723835	0.8673164	0.827899	0.83611186	0.8580033	0.8446971	1.3251086	1.1295447	1.0764815
Organic cation transporter 3	0.7656198	1.4627844	1.3235891	0.99827826	1.3253989	0.7126255	0.8043568	0.94174194	0.9861273	0.9576096	0.937331	1.0384182	1.0147867
Beta-actin	0.4870743	0.8557474	0.867344	0.8148399	0.9694947	0.7614602	0.81091168	0.7843312	0.83759737	0.6349749	0.9209308	0.91003454	0.88423194
Cathepsin S	1.9400831	1.547967	1.2923071	1.1632874	1.3343829	1.0128634	1.4510384	1.31053	1.3005396	1.358884	0.93359313	0.98133827	0.8984011
Bilirubin reductase	0.7821151	1.2256324	0.9708348	0.8318478	0.7742173	0.81204784	0.84133195	1.244557	1.0698495	1.8752804	0.8842948	0.8767032	0.86766565
Phase-1 RCT-154	0.89297205	1.0425779	0.9197151	0.9425587	0.83185186	0.8871394	0.7487508	1.0680965	1.0321089	1.2174611	1.0106484	1.0258482	1.0248507
Phase-1 RCT-293	1.5333056	1.2358888	1.3467244	1.1907624	1.1550003	1.0603774	1.1440916	0.90008134	1.1645647	1.0231245	0.9835381	1.0135531	0.94683744
Annexin V	1.1057111	1.052187	1.036291	1.0852834	0.7133434	0.79383063	0.9342983	1.3055382	1.0256587	1.2780578	1.0080688	1.2371365	1.0565313
Complement factor I (CFI)	1.3931801	1.5478943	1.5933271	1.5200914	1.2247812	1.3291827	1.4897048	0.84697326	1.2516158	1.062841	1.7705014	1.4460529	1.4803673
Phase-1 RCT-278	1.1812967	1.5104855	1.4916678	1.6052054	1.4228891	1.379702	0.8841541	1.0461347	0.94693478	1.1024446	1.0402639	1.0328573	
Tyrosine aminotransferase	3.0465877	0.9810102	1.0725924	1.3204392	1.3845818	1.2590626	1.6405487	0.98007035	1.2981789	0.90484115	1.1306385	1.1623887	1.0795487
Glutathione peroxidase	1.5065345	1.5140142	2.1390877	1.6371899	2.1070135	1.7918245	0.7861283	1.000283	1.000283	1.4474722	1.2722449	1.186291	
Histidine-rich glycoprotein	1.2075465	1.4963002	1.8453025	0.88752975	1.2948905	1.2970782	1.32733	0.9427156	0.63244607	0.6675947	1.418287	1.0592165	1.2308201
Carbonic anhydrase III, sequence 2	1.596783	1.4559048	1.7602714	0.87966245	1.3578887	1.2680913	1.2859026	0.8781563	0.87880227	0.63956463	1.1284397	0.9819387	1.1155457
Phase-1 RCT-92	1.266551	1.3303661	1.5162907	1.01461	0.7896245	1.3578887	1.3093198	1.2633063	0.92339253	0.7240213	1.0112191	0.9855877	1.0528975
Transitional endoplasmic reticulum ATPase	0.7044446	1.0200297	1.0982597	1.0913538	0.97788494	1.1317586	0.9433968	0.91384354	1.0311681	0.8652543	0.8652543	0.83466584	
Phase-1 RCT-81	1.2071859	1.3413856	1.299723	0.91099554	1.2344376	1.23406507	0.95897777	0.89974584	0.74029728	1.0746083	0.9399876	1.0785214	
Phase-1 RCT-296	1.5203586	0.98110324	1.5702956	1.2300481	1.2478758	1.160845	1.3390323	0.9837997	1.1454816	1.3234136	1.2841877	1.3386118	1.2714072
Phase-1 RCT-16	0.8708163	0.723827	0.6509017	0.9447104	0.8715758	1.0601778	0.9278928	0.9266508	0.7142787	0.96114236	0.8977481	1.1464821	0.7587059
Glutathione S-transferase theta-1	0.89758415	1.4352432	1.2442105	1.1178258	0.85387474	1.44454	1.1718204	0.93352785	1.018243	1.0250423	0.8688393	0.9016296	1.0151753
Phase-1 RCT-188	1.4879311	1.127907	1.2960281	1.376234	1.3066133	1.1139244	1.280573	0.9733828	1.207205	0.8525183	0.8408984	1.0964678	0.9054215
Phase-1 RCT-182	0.9869007	1.121218	1.432172	1.1944475	1.186028	1.0325768	1.0218958	0.91018845	0.9586831	0.8916686	1.0234787	1.0933303	1.0184959
JNK1 stress activated protein kinase	1.7443573	1.3314325	1.095219	1.0335959	0.89375234	0.7203483	0.60468373	1.3208303	1.0309028	1.5768787	1.0656066	1.0244865	1.0505708
Phase-1 RCT-81	1.0327763	1.3133014	1.260943	1.4841641	1.6578449	1.5810478	1.6705412	0.8500457	1.0320483	0.81265595	0.95905817	0.9500609	0.8952344
Phase-1 RCT-33	1.6880931	1.0410335	1.186662	1.0448849	1.1741784	1.0543974	1.2388927	1.1009438	1.2629282	0.9347703	1.2081821	1.2502358	1.0314053
Phase-1 RCT-178	0.5734756	0.5583984	0.8822649	0.7737384	0.93280816	0.93421644	1.0237062	1.0895382	0.98646176	1.4038252	0.8086077	0.7465294	0.7931226
Apolipoprotein CIII	1.0640476	1.4994137	1.074866	1.4731565	1.5217717	1.6408852	0.9794055	1.216628	1.1913952	1.0989498	0.9553143	1.060376	1.0748013
Phase-1 RCT-88	1.0710105	0.9750949	1.008885	0.7571663	1.1370387	1.023773	1.3310875	1.0839231	0.793235	0.9782443	1.0445516	0.90776356	0.9315804
NAAD-cytochrome b5 reductase	1.1089	1.3204758	1.2956302	1.1803395	1.3204017	1.023773	1.3310875	1.0839231	0.793235	0.9782443	1.0445516	0.90776356	0.9315804
Alpha 1 - inhibitor III	1.255818	1.1574228	1.7188807	1.3436126	1.2363386	0.7515298	1.6936878	0.8509698	1.4731651	1.0853843	1.0786862	1.3087723	1.2331171
Phase-1 RCT-293	1.4587731	1.1349186	1.155555	1.087375	1.2712289	1.2680239	1.3304588	0.8509698	1.6263189	0.92589915	1.1836177	1.1708777	1.2118228
Paraoxonase 1	1.302454	1.3656	1.4984944	1.3507122	1.4645159	1.4584432	1.4286072	0.7174077	0.7239881	0.9883084	1.102628	1.1493868	1.0856572
Presenilin-1	1.3516293	1.2753799	1.8987394	1.3878656	1.2914281	0.8188112	0.7835559	0.95313865	0.8261433	0.70136464	1.1788919	1.478416	1.2477836
Apolipoprotein C1	1.380938	1.558026	1.298598	1.4307774	1.9000673	1.8495572	1.542801	0.8575633	1.0448488	0.836301	1.1133919	1.2544612	0.9400049
Cytochrome P450 2C23	1.0541415	1.3326943	1.7537883	1.4081683	1.3464501	1.5638318	1.1341742	0.81696977	0.8823921	0.858037	1.2402129	1.0951457	1.2885385
Phase-1 RCT-227	1.1172982	1.2234123	1.0277893	1.2711573	0.99235505	1.1324328	0.967727	0.9447088	0.95461945	1.0026934	1.2770338	1.0176692	1.1385902
Hepatic lipase	0.83526784	1.2680513	1.5385921	1.2897134	1.428279	1.1705742	0.9043008	0.8403806	1.2971354	0.7634806	0.82693535	0.8865258	0.78612873
Phase-1 RCT-164	0.8734193	1.084061	1.1118642	1.1638545	0.6788201	0.9827115	0.9507881	1.3892102	0.88941694	1.6103895	1.0234685	1.0161036	0.8596331
Multidrug resistant protein-2	1.4251512	0.7774835	0.9666043	0.6769194	0.652808	0.7378322	0.9208978	1.3891171	0.9553807	1.27278	1.0429468	0.9178316	0.88128203
Insulin-like growth factor I, exon 6	1.788725	0.722779	0.9728841	0.8955737	0.8551628	0.8654805	0.94582655	0.9892795	0.8053419	0.48402142	1.1709749	1.2168548	1.0502431
N-hydroxy-2-acetylaminodione sulfotransferase (STC1)	1.4620328	1.0805697	0.936695	1.2702483	0.8903241	1.0638143	1.1098442	0.7399637	0.96784504	1.0188749	1.0066175	0.9250086	
Dynamin 1 (D100)	1.6911687	1.1959385	1.0894736	1.1585805	1.2329221	1.2848136	1.3384109	0.8814669	0.9820597	1.028174	1.0741638	1.1259383	1.108143
DNA polymerase beta	1.0487416	1.6464659	1.3189772	1.5166159	1.1068061	1.2851677	1.1378893	1.0680703	1.0813381	0.9585884	0.9068475	0.59110824	0.9188734

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Phase-1 RCT-173	0.6015041	1.1616896	0.8414354	1.0804633	1.3085588	1.2420225	0.9573818	0.96015805	1.1263902	0.6132749	0.914638	0.84735674
Ubiquitin conjugating enzyme (RAD 6 homologue)	0.8963068	1.6065831	0.7031047	1.2506064	0.66755178	0.8644897	0.95208144	1.0469827	1.0326498	1.0135463	1.1601618	1.077435
Ribosomal protein L13A	1.6548003	1.5769262	1.5360535	1.4365432	1.8355418	1.4422266	1.6083418	0.9997844	1.0379235	0.9863407	1.0165827	1.0279016
Phase-1 RCT-144	0.96291554	0.9636373	0.9797784	0.8529155	1.0506663	0.91744214	1.0343912	1.033204	0.8912724	0.87702628	0.87702628	0.822388
o-H-ras	0.8340203	0.9771665	0.9476088	0.8646808	0.8963201	0.8341	0.77190036	1.097033	1.0461771	0.9472569	0.94812846	1.0182719
Vesicular monoamine transporter (VMAT)	0.87291926	0.82664840	0.8150155	0.8450697	0.89140093	0.77675708	0.5735217	1.2036315	1.0707833	1.0454625	1.0017525	1.0944872
Phase-1 RCT-273	0.9267614	0.5169455	0.6077023	0.7172175	0.7695498	0.59231645	0.9732268	0.9467085	1.158462	1.0987782	1.1272659	1.1727308
Phase-1 RCT-230	0.8964782	0.5712626	0.737655	0.7919134	0.8788224	0.61768876	1.1251643	0.9578018	1.2270108	1.0002307	1.2253743	1.2947855
Phase-1 RCT-74	0.890051	0.8702533	0.8028318	0.7206494	1.534943	1.3533103	1.5902128	0.8457683	0.86818824	0.8574735	1.0134773	0.9523808
Phase-1 RCT-40	0.8659595	0.50386294	0.9373884	0.7654876	0.8640708	1	0.7070971	0.9107298	0.8315135	0.9549828	1.0228313	1.007173
Phase-1 RCT-158	0.84514655	0.7729237	0.777811	0.78330897	1.01088	1.0891584	1.0807122	0.843888	0.9860398	0.9570993	0.94237113	0.91238654
Deoxythymine kinase	0.9455323	0.6581948	0.8046885	0.672716	0.8653044	0.9562335	0.5209194	1.2284943	1.0387946	1.057122	1.048457	1.169884
Inositol polyphosphate multikinase (Ipmlp)	0.9157651	0.5934836	0.8456885	0.672716	0.8653044	0.9562335	0.5209194	1.2284943	1.0387946	1.057122	1.048457	1.169884
Neuronal cell adhesion molecule (NCAM)	0.7181725	0.509448	0.7168703	0.582081	0.926653	0.7718708	0.6580943	0.9684728	0.8327182	1.30276	0.9601534	1.0670052
Hepatocyte growth factor receptor	0.70763665	0.75743324	0.81393623	0.7704995	0.7977611	0.7960659	0.6465888	1.2244327	0.9307803	1.290575	1.0631028	0.844538
Empty	0.58159215	0.4578791	0.8754928	0.47011628	1.0168886	1.118884	0.8934983	0.9004752	0.99303347	0.945288	0.99151658	1.0168248
Dopamine receptor D2	1.0689273	1.2842835	1.1042763	1.193954	0.7650122	0.8908756	0.6950323	1.1778912	1.1401191	0.914251	0.924136	0.8655383
Phase-1 RCT-51	0.9454496	0.66430175	0.8471282	0.6815104	0.7786174	0.74495673	0.62195474	0.8327844	0.9188743	1.071419	1.0818077	1.1665289
Four repeat ion channel	1.2790328	0.8728885	0.81940633	0.83420366	1.4211273	1.3510869	1.3517151	1.1482767	0.7786366	1.2559704	1.100948	1.037121
Adrenomedullin	0.65373867	0.3923465	0.68310215	0.46818102	0.47801876	0.6020698	0.45533505	1.3582239	0.97856817	1.8004282	0.975275	1.1448435
Caveolin-3	0.86831206	0.6961513	0.8172893	0.70764663	1.3241837	1.2284072	1.3604948	1.0589247	0.9364121	1.2418071	0.868911	0.89731514
Phase-1 RCT-129	0.89576256	0.503286	0.7202595	0.99189366	0.84718734	0.82733685	0.80108064	1.0044868	0.88700285	1.0356797	1.0242743	0.9251665
Phase-1 RCT-94	0.83012295	0.8421714	0.8222945	0.96318778	0.9471665	0.8237371	0.68658	0.9599173	1.0308486	1.176285	1.1578187	1.0741651
Sarcolemmal ratioculum calcium ATPase	1.289378	0.7552026	0.636	0.58183166	0.6851	0.75508064	0.7437487	0.9143379	0.96543588	1.1936738	0.96077573	0.98421593
Phase-1 RCT-79	0.8140561	0.582367	0.7714656	0.5819785	0.8655624	0.828243	0.943099	0.92330614	1.164218	1.2325149	1.2520861	1.1669736
Phase-1 RCT-262	1.9140154	1.1955302	1.238465	1.239886	1.342061	1.2353035	1.3950046	0.91202956	0.93510413	0.82084346	1.1491478	1.1458165
Phase-1 RCT-151	0.9690204	0.9441008	1.0023466	1.0340489	1.0175112	1.1930484	1.1330808	0.92681108	0.9792151	0.8868261	0.9775844	0.9859514
Phase-1 RCT-170	1.0438928	0.7370173	0.8837392	0.7620347	1.3623966	1.2418743	1.1996154	0.851063	0.8450268	0.9920715	1.1476768	0.902277
Phase-1 RCT-150	0.6461043	1.198886	1.1709765	1.1923054	1.0457848	1.278651	1.1239611	0.9390804	0.9446282	0.7873766	1.3447423	1.2028903
26-hydroxyvitamin D3-1 alpha-hydroxylase	0.57524014	0.7345982	0.9265471	0.6277513	0.6480533	0.6277513	0.6075288	1.3554276	1.027425	1.5917452	0.91329235	0.888093
Phase-1 RCT-119	1.5792894	1.0161022	1.0782601	1.1254021	1.085953	1.0474815	1.2614663	0.9732151	0.8912715	0.7680287	1.0641475	1.38811
Peroxisomal 3-keatoyl-CoA thiolase 2	0.7710029	1.0521338	1.1949503	1.1252252	1.041445	1.0742385	1.456424	0.7972243	0.8912715	0.7680287	1.0641475	1.38811
Phase-1 RCT-146	0.6658551	0.82697237	0.7657894	0.98451686	0.79882746	0.9003861	0.8757533	1.2148983	1.0212888	1.408957	1.1029927	1.0413145
Superoxide dismutase Mn	1.6128071	1.5403765	1.3878584	1.109328	1.0984142	1.208754	1.443577	1.2148983	1.0450972	1.343938	1.0771905	0.9768004
Phase-1 RCT-115	0.49109554	0.58127296	0.7916365	0.6363793	0.7142088	0.73755157	0.565792	1.1478451	0.7505276	1.2768701	1.0587457	1.0178589
Alpha-1 microglobulin/bikunin precursor (Amp)	1.0794332	1.5361983	1.9155146	1.7634073	1.737689	1.7440808	1.7327298	0.856624	1.0749346	0.86846757	1.266251	1.1171793
Phase-1 RCT-18	0.96507436	0.83448493	0.8786892	0.84652305	0.8477695	0.8477695	0.8477695	1.0286792	0.8463101	1.084882	1.0067062	1.0148994
Maspain	1.0894916	0.72096504	0.9084354	0.7740274	0.72083557	0.7200511	0.6520044	1.4897422	1.0068015	1.422193	1.0001371	1.0995977
Decorin	0.70643528	0.6584422	0.7391304	0.5674275	0.69286254	0.68332106	0.58757234	1.1715251	1.028441	1.3681856	1.1318238	1.1899469
Retinoid X receptor alpha	0.7515787	0.8933051	0.8879327	0.7724155	0.7241686	0.69030265	0.8444795	0.9432727	0.8468988	1.2341539	0.8448806	0.85280474
Cellular nucleic acid binding protein (CNBP)	1.3452489	1.2795228	1.2688307	1.1709659	1.0596683	1.1521713	1.2287654	1.1967655	0.93443835	1.021803	1.0103873	1.0379653
NADPH cytochrome P450 oxidoreductase	0.9266659	0.70849645	0.8227477	0.6899597	0.78333218	0.6340915	0.8430915	1.1694089	0.8168727	1.410974	0.995299	0.99865663
Malic enzyme	0.9124082	0.5926108	0.7684208	0.6068073	0.5440393	0.5384104	0.53118396	1.222172	1.4943807	1.145368	1.3862607	0.8859286
Caspase 1	0.57871513	0.82236495	0.8402255	0.70342106	0.67881614	0.71453875	0.655258	1.1706616	0.8847006	1.3862607	0.8859286	0.93371433
Cystatin C	1.8283756	1.2381157	1.398885	0.9597118	1.1228892	1.1230419	0.8241904	0.93081625	0.98185476	0.97468896	0.7705708	0.8559366
p53/CDC	0.6984074	1.1938545	1.0682738	1.0253315	0.9602161	0.7093477	0.89009468	1.381924	1.0279332	1.329427	0.9900881	1.1303802
Poly(ADP-ribose) polymerase	0.73959446	1.0289971	0.94971335	0.9087828	0.82440364	0.91690084	0.742717	1.0390704	1.0468425	1.0480837	0.92881954	0.87019786
Tissue plasminogen activator	1.1211787	0.8764754	0.9078947	0.8629918	0.9619153	0.88873784	0.85838044	0.9070755	0.9889228	0.81125176	1.160264	1.0449464
Multidrug resistant protein-1	1.1247864	0.7954047	0.85922487	0.7954047	0.8020597	0.8020597	0.744857	1.2525847	0.9575232	1.1458156	0.9342288	0.844187
Phase-1 RCT-207	0.62652797	0.8876154	0.8235585	1.0842428	1.1331265	1.2131488	0.9843853	0.9789881	1.1781572	0.9132478	0.9132478	0.926181
Phase-1 RCT-181	1.1080437	1.0100851	0.958702	1.0459883	1.2317473	1.17387	1.164897	0.727422	0.9282208	0.8142275	1.213939	1.0821565
Gap junction membrane channel protein beta 1 (GJB1)	1.1334686	0.55541945	0.82831945	0.8629149	1.5103861	1.140872	1.3528922	0.8080771	0.5745196	0.58892053	1.2671463	1.244474
Aqueporin-3 (AQP3)	0.8217716	0.87748874	0.8104654	0.7708375	1.1459538	1.0884587	1.16716756	1.0582706	0.9640191	1.1486506	1.1388027	0.9938931
Myelin basic protein	1.038284	0.8773055	0.8572248	0.95080866	0.8288854	0.6577318	0.80656254	0.87276517	0.69674546	0.92282628	0.9243214	0.900015
Calgranulin B3	0.7539986	0.9256873	0.8591825	0.890603	1.03875	1.1372293	1.2065081	0.88133828	1.0625151	0.85339093	0.9127928	0.94100577

Table 30

Phase-1 RCT-156 Proteasome activator 28 alpha	1.0458912 0.6310835	0.84416175 0.519143	1.1761231 0.7412053	1.1588861 0.6458837	1.1957524 0.6594404	0.96547014 0.7333753	1.3742383 0.50081094	0.86397326 1.2118626	1.0343488 1.0800581	0.7235635 1.3897442	0.73661816 0.86502558	0.82820857 0.88900476	0.797267 0.90067816
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 hr: yes=rect, necrosis observed; yes=both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 26)													

Table 30

Table 30. Expression Data for 72 Hour Timepoint															
(1)															
Compound/Dose (2)	GAN 50	GAN 50	GAN 50	GAN 50	GAN 150	GAN 150	GAN 150	GAN 150	GAN 150	GAN 150	GAN 150	GAN 150	GAN 150	GAN 150	GAN 150
Animal Number (3)	2448	2447	2448	2448	2448	2448	2448	2448	2448	2448	2448	2448	2448	2448	2448
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Phase-1 RCT-107	1.0247049	1.1038642	1.0252148	0.8253145	1.2351356	0.7914106	0.9404086	0.6739895	0.6083605	0.9453022	0.83390284	1.0299149	0.9288528		
Baseline homocysteine methyltransferase (BHMT)	0.5906452	1.3462048	0.6577872	1.5316918	1.127557	1.062888	0.97355133	0.81180143	1.1230943	0.49676588	0.83390273	0.7858356	0.8175002		
Proliferating cell nuclear antigen gene	0.8703236	0.82328465	0.763534	1.054688	0.9429588	1.008004	1.033107	0.80942124	0.9073158	0.9633844	1.5824834	1.940828	1.282855		
Cytochrome P450 2D18	1.00943	0.8701653	0.8756053	0.7487726	1.1203245	0.9047123	0.8995595	1.3008077	1.051871	1.0862052	0.7674768	0.842089	0.7684631		
Cytochrome P450 2C11	0.5509739	0.8444258	0.8442321	1.1993448	1.103461	0.9678716	1.1582094	0.8638222	1.030908	0.9149127	0.8715417	1.7810723			
Phase-1 RCT-280	0.6452496	1.1805738	1.40116647	1.3923291	1.0433679	0.9881342	0.9576809	0.78028387	1.0196904	0.80917215	0.683329	0.9352206	0.911563994		
Phase-1 RCT-59	0.8520038	0.6908337	0.92258346	0.9418767	1.087381	1.0133888	1.0244809	1.049887	0.9509847	0.8919135	1.0879138	0.947811	0.9582203		
Beta-actin, sequence 2	0.8398964	1.119885	1.0726321	0.8284985	1.009373	0.973871	0.95905944	1.1230154	0.8503356	1.1173711	0.858004	0.9434004	0.87776563		
Phase-1 RCT-282	1.1374984	1.0335142	1.0442388	0.9229884	0.9785363	1.0186528	0.94293547	0.8630704	0.8531222	1.0107578	1.178217	0.9305047	0.987827		
Pyruvate kinase, muscle	1.0585396	0.99248866	0.9847298	0.8603481	0.99420786	0.95570564	0.8914515	1.066003	0.9858388	0.9364871	0.86943744	0.8797815	0.9390005		
Osteocalcin	1.0779759	0.8988831	0.9330887	0.8991484	1.0754539	1.0705161	0.9802735	1.1826894	1.159411	1.300669	1.074457	1.0242808	1.1083574		
Calgranulin B1	0.88287374	1.0034038	1.0119553	0.8275995	1.0422692	1.0191344	1.034996	0.72047395	1.0058984	0.6959946	0.6158802	0.7674581	0.8846276		
Androgenic protein AII	1.4653546	1.3157481	1.0944678	0.8089844	1.3080565	1.0734365	0.93739694	1.1620825	1.1464187	0.3170188	0.25051942	0.46022353	0.5807542		
Conexin-32	1.1385501	1.0028531	0.8972745	0.7284055	0.8654814	1.3620304	0.81564598	1.2289202	1.4236456	1.1028411	1.452383	2.963026	1.8151282		
Phase-1 RCT-109	1.23092	1.1025732	1.0458956	0.83169043	1.09377	1.0472778	1.0685482	1.2178714	1.1340881	0.7350944	0.6282281	0.5484602	0.8414477		
Glycine methyltransferase	1.2937168	1.4627147	1.0691334	0.80560333	1.4954826	0.8396655	0.8404734	0.73162276	0.79250473	0.87644877	0.46531862	0.8655225	0.7574077		
1,4-glycyl-L-histidyl-L-histidine oxidase	0.8197269	1.3264241	1.430607	1.0283765	1.0687726	1.0139036	1.0255589	1.16327	1.1287555	0.6588534	0.43852034	0.97787166	0.73093677		
Phase-1 RCT-226	0.87420597	1.0106006	0.8028941	0.8973255	1.1270578	1.0129873	0.9689243	1.1288209	1.1160306	0.6982028	0.6103729	0.83004544	0.9542281		
Carbonic anhydrase III	1.3839743	0.7031444	1.0686246	1.598903	2.034488	1.7917066	0.6551627	0.8450137	1.2183161	0.2482182	0.6580184	0.3581153	0.5613003		
Phase-1 RCT-76	1.002089	0.8931286	1.020434	0.95031835	1.087065	1.0066932	1.1325098	1.0011449	0.8182543	0.0979181	1.1207622	0.909100	1.0345168		
Ureidyl protein 2 precursor	1.223543	0.946059	1.020601	2.2521565	1.871191	1.2704374	0.9800029	1.4762821	1.2508895	0.080381	0.7652025	0.7884131	0.8020156		
Insulin-like growth factor I	1.2847319	1.0117508	1.0454576	1.1310556	0.9043822	1.3802372	0.8301235	2.000184	1.1244338	0.955663	0.6923784	1.0094558	0.8262744		
Aryl sulfotransferase	1.3131044	1.3598396	0.9595909	1.3398159	1.346104	0.89440295	0.9831712	1.010395	1.0071678	0.81072858	0.6341425	0.8172894	0.8497354		
Phase-1 RCT-185	1.1907307	0.80894996	1.0522643	1.444315	1.0898152	0.9444839	0.7070886	1.0513736	1.0187916	0.94243574	0.7824096	0.82218045	0.7857768		
Cofilin	1.0889548	1.118344	1.1435035	1.2308908	1.0588533	0.95753684	1.028558	1.4348117	1.1317727	1.3573351	1.1218054	1.0201671	0.9458023		
Stathmin	1.0171176	0.95989994	0.9212006	1.0028892	0.8101397	0.7342157	0.9731366	0.7863344	0.8549556	1.0309323	1.0988553	1.0488684	1.1328954		
60S ribosomal protein L8	1.3491542	1.2082744	1.0249484	0.7560075	0.9518573	1.0160515	0.98823136	1.2680051	1.0231395	0.8294184	0.5710954	0.59785366	0.8667282		
Calpain I heavy chain	0.98296034	1.0602243	1.1307588	0.8500484	0.9963235	0.9582918	1.001552	0.8532045	1.0231395	1.112144	1.189245	1.2191828	1.0864811		
Calpain type II	0.84457684	0.96284274	0.9876089	1.0323948	0.94536835	0.73558874	1.1113228	0.97549184	1.066875	0.8350575	1.0834678	1.0065354	0.89714558		
Phase-1 RCT-178	1.3361789	0.9355581	0.9650671	0.93181443	1.0578073	0.9146582	0.8994339	1.1257797	1.0792457	0.96765333	0.5386186	0.8437638	0.9821643		
Voltage-dependent anion channel 2 (Vdac2)	1.1846077	1.2289376	1.1282351	0.9291124	1.0123069	1.0426207	1.0803615	1.0397259	1.0232518	1.0944687	0.8437638	0.95822775	0.9821643		
Phase-1 RCT-182	0.9896181	1.0010541	1.001761	0.93117064	1.0411685	1.0842748	1.0878668	0.9878576	1.1176225	0.8082399	0.75772536	0.8604381			
Adenine nucleotide translocator 1	0.77957854	0.8886606	0.8255238	0.8867431	0.8865783	0.67827827	1.0321319	1.359042	0.83381206	0.86002856	0.93430674	0.8345177	0.7245378		
Thymosin beta-10	0.8932892	1.0281269	0.8818312	0.9135022	1.2958492	0.9837859	0.8309888	1.2810351	1.1150183	0.7098458	0.74202156	0.6943318	0.7594228		
High affinity IgE receptor gamma chain (FcεRIγ)	0.9808078	1.0025076	1.0561334	1.2060756	1.1900371	1.0210228	0.9258942	0.8666524	0.9665314	1.241382	1.1622772	0.92257965	1.0401284		
Gamma-actin, cytoplasmic	0.7102713	1.2408996	1.1031802	0.75204825	0.88943523	0.94085234	0.9533553	0.9170009	0.78832847	1.0951501	0.8724654	1.0168988	1.0050821		
Uncoupling protein 2	0.7333043	0.8765250	0.83763485	0.898764	0.95878614	0.75314814	0.8992586	0.9718789	0.99476535	1.0439873	1.1245594	1.0282018	1.0513145		
Phase-1 RCT-34	1.2120267	1.263250	1.2452625	0.85891704	0.9242803	0.8657085	1.047285	1.0401745	0.9727725	1.170822	0.8645672	1.02608	1.2358162		
Phase-1 RCT-31	1.9283898	1.5931308	1.5243588	0.9881018	1.1823559	1.0077891	1.0828336	1.5533718	1.2171338	1.2171338	1.037811	0.97834884	1.002211		
Cyclin D1	0.8783828	0.97051074	0.89341605	1.0522084	0.82337075	1.1047227	1.0538383	1.1308804	0.7108607	1.2019789	1.8547151	1.420534	1.012745		
IgE binding protein	1.0469251	1.1443789	1.1142975	0.887757	1.0653421	0.868738	0.9434594	0.84598555	0.9094039	1.0056298	1.0537653	1.1314516	1.1557009		
Zinc finger protein	1.0174272	0.8537721	0.9608850	1.0117842	0.9270515	0.7188883	0.9721121	1.0769095	1.2192285	0.8696552	0.8922017	0.95192915	1.1744835		
Phase-1 RCT-138	1.1492808	0.6832489	1.0169184	1.0362072	0.98360058	1.0115153	0.962262	0.9033532	1.0771448	0.93096507	0.9155292	0.84724864			
Alpha-tubulin	0.5864575	0.98767304	0.9247625	1.0080534	0.9135685	0.6678408	0.9576809	1.0330359	0.8429738	0.7619214	1.0087128	0.85147085	0.69151014		
Alpha-phosphoinosin	1.202432	1.0226061	1.0847831	1.0622408	1.041074	0.8841774	1.0246993	1.4722872	0.9868278	1.0450589	0.81277055	0.7783665	0.8600683		
Calpain 2	1.0518946	0.9833738	1.0251286	0.8687088	0.9003802	1.0221417	1.0182467	0.9284874	0.9069204	1.0837089	1.0478552	1.0083041	1.1158221		
Phase-1 RCT-12	0.81580038	1.0937222	1.0796448	1.1242185	0.969598	0.9043849	0.9678339	1.0224918	0.87280387	1.0740346	0.9739018	0.93878594	0.9139475		
Cathepsin B	1.1077957	0.8751138	0.8449645	1.0528709	1.0558991	1.1176225	1.1913154	1.134666	1.21768491	0.9170707	0.8043288	0.8635784	0.95165185		
Phase-1 RCT-24	0.53428495	1.2714984	1.0972254	0.9621769	0.9605437	0.9708305	0.95468684	0.9156656	0.8669056	1.1786491	0.8643288	0.87789584	0.83180543		
Melanoma-associated antigen ME-491	1.2173206	0.9645053	0.8930038	0.9418379	1.0748545	0.985447	1.0702834	1.1287378	0.885046	1.6418222	1.3533549	1.1491184	1.08302		

Table 30

Phase-1 RCT-68	0.9114007	1.0272478	1.0348718	0.9910697	1.0659542	1.0318122	1.0093551	1.0923129	1.1973742	1.1958732	1.1232314	1.0930463
Ordin G	0.97446597	0.9683746	1.0081916	0.7914428	0.9044596	1.043604	1.0263927	0.8607594	0.9938694	0.8627088	1.4286153	1.4426387
Hypocanthine-guanine phosphoribosyltransferase	0.57139987	0.9353993	0.9727356	0.9277091	0.8809908	0.8615011	1.0700054	1.2660183	0.8351604	0.9261766	0.2265425	0.78662463
Tissue inhibitor of metalloproteinases-1	0.8386283	0.92865627	0.9776821	1.0774374	1.0530444	1.0086597	0.9799574	0.8975807	1.0691867	1.2727247	1.3707148	1.083988
ID-1	0.9180784	0.9918935	0.90411896	0.9976374	0.8335782	0.920325	1.0511483	1.0214655	0.8967277	0.9305748	0.8973558	0.90331376
Ribosomal protein S8	0.9500865	0.9673298	0.85532806	1.1528131	1.0246154	1.05061	1.0514375	1.2338217	1.0879731	1.0007852	0.93700514	0.7698133
Heme oxygenase	1.6527284	1.1091547	0.9909816	0.921707	0.86598825	0.84394237	0.9373785	0.88709724	0.9626728	1.2386702	1.48297	1.322709
Ribosomal protein S6	1.4034072	1.1939172	0.9925965	1.2063317	1.2643255	1.3366814	1.1084317	1.3554044	1.151473	1.054328	0.8203899	0.7558784
Ribosomal protein S17	1.2943561	1.197868	1.0435541	1.2287242	1.2823712	1.2027469	1.0589847	1.4102887	1.1405907	1.1980587	0.9077254	0.88926418
Nucleoside diphosphate kinase beta isoform	0.93049484	1.0778191	1.0760669	1.0546795	1.079027	0.9265861	1.2511815	1.1061574	1.0753148	0.8635388	0.85564028	0.8027168
Phase-1 RCT-121	0.9704088	0.88164115	0.9401888	0.97120667	0.9454722	0.85187585	0.93281453	0.7719848	0.8344541	1.1840235	1.1768961	1.2389918
14-3-3 zeta	0.96195686	1.0519402	0.96558286	0.93338025	0.881092	0.87144227	0.78353908	0.83639574	1.1437557	0.8059645	0.8804671	0.897953
60S ribosomal protein L8 (alternate clone 1)	1.3733717	1.1861062	1.1054485	1.0776400	1.0718673	1.138269	1.0657971	1.2214149	1.1171018	0.9170557	0.8059645	0.8804671
Beta-tubulin, class I	0.70309474	1.6715432	1.4063566	1.1081464	0.8201747	0.89007028	0.91063875	1.1021557	0.8061521	0.8223152	0.8174597	0.983084
Organic cation transporter 3	1.0185971	1.0618166	1.1012413	0.7932866	0.84429055	0.71150374	0.9416754	1.3037317	1.0228802	0.9653843	0.890988	0.8526347
Beta-actin	0.7200688	0.9794154	0.98549648	0.8716457	0.9646824	0.9046969	0.8147424	0.9148284	0.89093129	1.0145978	0.7025559	0.8076389
Calpelin S	1.1002234	1.1281626	0.8521719	1.0816596	1.0079842	1.0423189	0.91688704	0.87199595	0.89566117	1.0871462	1.0572885	0.8934793
Biliverdin reductase	0.8870872	0.97840303	0.8443783	0.9597346	0.91979986	0.91632664	0.90337586	0.8415219	1.1232477	1.3168821	1.1545552	1.3846731
Phase-1 RCT-154	1.0473787	1.0327737	1.0133255	0.9544547	0.8885143	0.8976671	1.0118542	0.71030396	0.92025834	1.0714726	1.53607	1.077681
Phase-1 RCT-293	0.9722048	1.0527238	1.0871238	0.9254881	0.8588751	1.0032208	1.0380557	1.057252	0.9394616	1.0191817	1.0956976	0.8303865
Annexin V	1.0252572	1.0498811	1.0839444	1.0779487	0.90702945	0.9601693	1.0171762	1.1202329	0.9440342	0.9303072	1.1633889	1.0547216
Complement factor I (CFI)	1.8730488	1.1388308	1.0714834	0.8963305	1.0024728	1.1958008	1.0715703	1.1983344	1.2675723	1.268308	1.0711945	0.9628168
Phase-1 RCT-276	1.0576347	0.9703906	1.0106322	0.94333917	1.1619494	0.9749653	1.0196718	1.173457	1.0318335	1.2680054	1.0584324	0.96611288
Tyrosine aminotransferase	1.1746349	1.1255773	0.856033	0.8503776	0.80545815	1.2689423	1.0170764	1.0853057	0.7409475	1.1346322	1.5669928	1.4837408
Glutathione peroxidase	1.0512916	1.2518058	0.85050734	1.6599257	0.90922195	0.87475904	0.8202811	1.5846051	1.2819139	0.9972814	1.067443	1.2105445
Cardiac anhydrase III, sequence 2	1.6881942	1.3421893	0.91045016	0.8678658	1.1189586	1.1733172	0.83720274	1.0485445	1.0623525	0.82215168	1.0460135	1.0053362
Phase-1 RCT-192	1.6607683	1.250284	0.8803418	1.040482	1.127306	1.165601	0.8162364	1.0852886	0.8083715	0.9176398	0.86220948	1.3137581
Glutathione S-transferase theta-1	0.75554115	0.9248834	0.9269717	1.1780268	1.0130267	1.1383275	1.0074897	1.1618318	1.6248726	0.80754197	0.8230369	0.6925434
Phase-1 RCT-168	0.8346815	0.98764217	0.9059885	0.84397163	0.8928873	1.0935987	1.2190021	1.0826	1.0142413	0.9604054	1.0903839	1.1322403
Phase-1 RCT-182	1.1749829	0.91005335	0.9342077	1.09121	0.9881101	0.9577286	1.1094565	0.92769833	1.2002681	0.8702555	0.83170885	0.8342828
JNK1 stress activated protein kinase	1.1641034	1.2140715	1.0359477	1.3378012	1.0058343	0.9202016	0.9576346	0.879944	0.959817	0.7070149	0.87031835	0.8933229
Phase-1 RCT-81	0.97981244	0.862092	0.96755266	1.0537884	1.0488619	1.0076666	1.0399157	1.1694027	1.0223818	0.9786605	0.97966725	1.0065745
Phase-1 RCT-33	1.1695337	1.0372019	1.0602652	0.7572409	1.1449175	1.2658954	1.5454814	1.1595069	0.83421775	0.7883656	0.70297134	0.8779658
Phase-1 RCT-178	0.83568886	0.6963116	0.72538826	0.9020699	1.2262892	0.965906	0.84386616	0.6393517	0.89726396	0.8363301	0.48749938	0.4103028
Apolipoprotein CIII	1.1601214	1.0611722	1.0845393	1.1209154	1.0829458	0.8656474	1.0496573	1.0785611	0.9803593	1.0513904	0.8086248	0.80230343
Phase-1 RCT-98	0.9214799	1.087038	1.265427	0.982849	1.0005755	1.057666	1.0122821	1.033182	0.954378	1.015492	1.1816578	1.1831558
NADH-cytochrome b5 reductase	0.7028539	1.3073257	1.1408774	1.1678934	1.0002352	1.1057574	1.1210519	1.0018752	0.9780388	1.1620563	1.0501502	1.0304784
Alpha 1 - inhibitor III	2.1635425	0.97542864	1.0522372	1.8078434	0.8339955	1.5018506	0.9036681	1.3270335	1.1932428	1.053757	0.88985187	0.720785
Phase-1 RCT-233	1.0730089	1.0527492	1.3704119	1.1760393	1.0731655	1.0344214	0.8341405	0.8035225	0.8623127	1.0697032	0.88767457	0.2692574
Paraoxonase 1	1.4703928	1.0894068	1.056483	1.6534984	1.0833316	1.078891	1.0778953	1.2665768	1.1268002	1.0519454	0.9207841	0.7604672
Proteinase-1	2.4946449	1.0347936	1.0921187	1.5100413	0.832739	1.5125183	0.7658772	1.3624917	1.1972228	1.015638	0.8146554	0.72538844
Apolipoprotein C1	1.4081128	0.91095585	1.2368878	1.8066313	1.4236889	1.018908	1.0128819	1.2538557	1.1780088	0.8650843	0.90443987	0.7444707
Cytochrome P450 2C23	1.6069746	1.0240436	1.0689898	1.298441	1.094432	1.1463947	0.88004316	1.1983068	1.2692882	0.8438085	0.8484219	1.0327848
Phase-1 RCT-227	1.6358809	0.8443374	0.98422485	0.9211278	1.1616852	1.0080024	1.1072897	1.0235498	0.88863033	1.0968178	0.92443987	0.8345491
Hepatic lipase	0.7009525	0.95180706	1.1250321	0.8648179	0.86878344	1.063065	1.0777204	1.0169396	0.7976789	0.7543979	0.8345491	0.83928333
Phase-1 RCT-184	0.84810437	0.95108975	1.086418	1.113289	1.0548955	0.8434994	0.9874787	1.2462848	1.0845832	0.9263251	1.000542	1.020412
Multidrug resistant protein-2	1.1377316	0.9754829	0.96334535	1.0063257	0.8939445	1.1159465	0.90260005	0.97657755	1.0331792	0.8768241	1.0517021	1.0446166
Insulin-like growth factor I, exon 6	1.3375257	0.8278587	1.1883981	0.8392786	0.76289153	1.3272628	0.98892355	1.2628288	1.2079836	0.8434059	1.0443228	1.0473897
N-hydroxy-2-acetylaminofluorene sulfotransferase (STIC1)	1.4210869	0.862047	0.8603764	1.1662419	1.2212319	1.1463763	1.111232	0.93626887	0.96820055	1.0180728	0.7773409	0.6957301
Dynamin-1 (D100)	1.083004	1.0541253	1.1303124	1.1238568	1.1226566	1.0706693	0.8914508	1.1510776	0.9848704	0.953786	0.8048812	1.0206088
DNA polymerase beta	0.9450376	1.0597925	1.0289562	1.2013118	1.194596	1.0735883	0.9201735	1.3877608	1.0717434	1.119382	1.0361001	0.959045

Phase-1 RCT-173	0.8538982	0.8587131	0.8495357	1.0029357	1.1791466	0.904216	0.9479392	0.8149492	0.8953976	0.7594052	1.0101525	0.7608692	1.0390757
Ubiquitin conjugating enzyme (RAD 6 homologue)	0.9574584	1.1049708	0.9590718	0.9359507	1.0837769	1.0096983	1.0727031	1.2081362	1.155216	0.896786	0.89657843	0.8620674	0.7407763
Ribosomal protein L13A	0.1664361	1.0721039	0.9210273	0.744121	1.1363084	1.208862	1.0333962	1.3111004	1.2734498	0.8014175	0.6314735	0.8709574	0.8062606
Phase-1 RCT-144	0.8637709	0.930295	0.9107347	1.0730735	0.8469015	0.8257756	0.8311324	0.6342586	0.7701769	1.1728516	0.8326334	0.8709574	0.8062606
c-H-ras	0.8457534	0.8831507	0.94871	0.8356273	0.9518765	0.95560473	1.0076381	0.8473954	0.8478317	0.72042423	0.586257	0.7220469	0.8468424
Vesicular monoamine transporter (VMAT)	1.0316078	1.0146188	0.8693986	1.3428671	0.8882623	0.7244	1.2091168	0.8141739	0.8044611	1.21894002	1.1014821	1.5010705	1.5281391
Phase-1 RCT-273	1.0897249	1.0102439	0.9080202	0.958919	0.92243336	0.76060128	1.1387029	0.74882915	0.9286491	1.0745444	1.4827077	1.5521553	1.2532376
Phase-1 RCT-220	1.1312386	1.2040797	1.0498688	1.0258019	0.9840903	0.87605286	1.0717218	0.75521237	0.8377724	0.97804457	1.0742236	1.0567791	1.2130462
Phase-1 RCT-74	0.8579015	0.9583388	1.0716567	0.8542588	1.0273962	1.0581135	0.98530346	0.65518434	0.94628598	1.1639708	1.452471	1.147315	1.2377656
Phase-1 RCT-80	0.8901102	0.9726635	1.0112221	1.0178411	1.1455289	0.95542276	0.8954838	0.7428813	0.8387808	1.0240705	1.5230335	1.3771359	1.4235555
Phase-1 RCT-158	0.9530828	0.9722525	0.93612104	0.8467806	1.033958	0.9781077	0.6512039	0.721498	0.7835555	1.1813928	1.252695	1.1710846	1.3804525
Deoxydiphosphate kinase	1.1315594	0.87106314	0.92417526	1.346134	0.8038747	0.89387155	1.0217624	0.8110325	0.9597588	1.3277859	1.5012529	1.6840098	1.2590011
Inositol polyphosphate multikinase (IPMK)	1.048064	0.9308045	1.000942	1.070931	1.0498662	0.9397803	1.0886671	0.7434202	0.7700754	0.9330818	1.2070714	1.0333705	1.0695688
Neuronal cell adhesion molecule (NCAM)	1.0408278	1.0284044	0.9009781	0.9681187	1.0197055	0.92122096	1.0744258	0.7839385	0.8100284	0.8808523	1.122529	0.8584401	0.93727525
Hepatocyte growth factor receptor	1.0459981	0.99417886	0.8898906	1.1748457	1.0043381	0.96964306	1.0151324	0.9275515	1.1150966	1.1050571	1.107734	0.7348111	1.3396865
Empty	1.0094615	1.1083177	0.9224329	1.0434417	0.961531	0.8805285	0.94297147	0.6225381	0.760011	1.1053021	1.6536826	1.4317169	1.7333708
Dopamine receptor D2	0.92691916	0.9845155	0.8928493	1.1820971	0.85110873	0.8448814	1.0583558	0.9223211	0.8762245	1.0078424	1.409167	1.200476	1.240343
Phase-1 RCT-51	1.1156324	0.9853933	1.0314457	1.1335793	0.9340335	0.8083854	0.9746735	0.895959	0.84951036	1.0541251	1.0623853	1.2497298	1.4505065
Four repeat ion channel	1.030087	1.0453948	1.1310295	0.9207879	1.0453945	1.0282454	0.9746735	0.895959	0.84951036	1.0541251	1.0623853	1.2497298	1.4505065
Adrenomedullin	1.0517472	1.1047113	0.97388244	1.1968746	1.0327315	0.8433748	1.2372724	0.5750548	0.7619263	1.1356578	1.399454	1.2191665	1.4182731
Caveolin-3	0.89635944	0.90092317	1.0530538	0.92778057	1.0326586	0.98410635	0.99245113	0.8662088	0.940202	1.1252089	1.5796344	1.411253	1.82464
Phase-1 RCT-128	0.89179686	0.96858443	1.0283332	1.0498749	1.0254713	0.9366665	0.9673344	0.9676926	0.8963381	1.3520224	1.2218457	1.1752298	1.0785952
Phase-1 RCT-94	1.1532372	1.1189168	0.7397089	0.9571731	0.86282045	0.88154256	0.8609582	0.7647727	0.8119526	1.1254554	1.3571169	1.3310591	1.2090197
Sarcoplasmic reticulum calcium ATPase	0.8963311	0.9448483	0.8549105	1.0980353	0.8065027	0.88073955	0.9434658	0.93334544	0.7826321	1.031892	1.076812	1.021158	1.2111491
Phase-1 RCT-78	1.16101	1.1132923	1.0366032	0.9471094	0.8724482	0.94473808	1.0385118	0.75514704	0.8430405	1.1082858	1.1300019	1.0990009	1.3601471
Phase-1 RCT-252	1.8928675	1.1051728	1.1438398	0.825889	1.0069872	1.0605987	0.8545948	0.8834451	1.1517278	0.9138388	0.57601845	0.8088007	0.9730013
Phase-1 RCT-161	0.92965765	0.9729272	0.9482584	0.89156586	1.1776844	1.0238623	0.9789937	1.0121589	1.024806	0.7729907	0.880483	0.9784687	0.88850635
Phase-1 RCT-70	0.9452878	1.0668652	1.1000259	0.7009177	1.1376938	1.0151467	0.9259878	0.9298166	1.0995027	1.4357742	0.88912215	1.0265446	1.0872884
Phase-1 RCT-150	1.3264298	1.0988583	1.1130745	0.9071405	1.1416432	1.0059533	1.0820781	1.1817263	1.0451926	1.3077832	1.0130416	1.0785952	1.0785952
25-hydroxyvitamin D3-1 alpha-hydroxylase	0.81390357	0.9295583	0.7555104	1.038823	0.8626554	0.8029845	0.9373752	0.86437545	0.86437545	1.0619305	3.6162329	1.0130416	1.0785952
Phase-1 RCT-119	1.4931554	1.0762972	1.1587216	0.8955443	0.9542387	1.2009098	0.9260645	0.97080475	1.081257	0.98971825	1.1066825	1.2245288	1.2521435
Peroxisomal 3-ketacyl-CoA thiolase 2	1.0206178	1.0378031	1.0833552	0.97379852	1.0076243	1.054898	1.262289	1.2503115	1.1885382	0.87196983	0.9210687	0.612192	0.8466565
Phase-1 RCT-146	1.1148478	1.1258813	1.0173331	1.003928	0.8735628	0.7590023	0.97443444	0.6896707	0.7753984	1.2429338	1.7573133	1.581435	1.7868478
Superoxide dismutase Mn	0.9516349	1.0865595	1.0847358	0.9070521	1.118777	1.153721	1.2710907	1.0162734	0.949397	0.90749323	0.86501656	0.91385806	1.0183172
Phase-1 RCT-115	1.0123153	1.0968859	1.0111514	0.81213903	0.9418152	0.9311643	0.9489994	0.8250694	0.869015	1.129646	1.1200488	1.2910761	1.1860358
Alpha-1 microglobulin/bikunin precursor (Amlp)	1.4168785	0.97432953	1.0036223	1.0281631	1.068309	1.0288582	1.1122848	1.3361895	1.1243858	0.9660763	1.0158962	0.9766074	0.9285816
Phase-1 RCT-18	0.91250557	0.9403433	1.0578286	0.9155904	1.4180218	0.8694845	0.9423067	0.8409452	0.8745752	1.044239	1.3321319	1.3134539	1.0746598
Masspin	1.0370535	1.0283298	0.9589213	1.1765488	0.8876275	0.81359035	1.1232535	0.7652442	1.2302864	1.1086542	1.3922881	1.218659	1.9447884
Decorin	1.0663356	1.2155205	1.3315581	0.99052175	0.8174507	0.7491512	1.0718565	0.6851788	0.84206533	1.4412485	1.3933071	1.2084045	1.5653833
Retinoid X receptor alpha	0.9172485	0.9500611	0.842282	0.7668407	0.844228	1.0102165	0.9303312	0.93776516	1.0606284	0.7897214	0.92015415	0.91244024	0.96438247
Cellular nucleic acid binding protein (CNBP)	0.9887058	1.1489224	1.0184741	0.8847253	0.89388035	1.0737041	0.91528663	1.2089694	1.0681514	0.8168031	0.8316968	0.7568128	1
NADPH cytochrome P450 oxidoreductase	0.9894715	1.0584192	0.96727835	0.74403644	1.0724933	1.155497	0.96381625	1.1989115	1.1412183	0.89350015	1.0139718	1.1515716	0.8518766
Malic enzyme	0.6328429	0.9595101	0.8886559	1.027181	0.8405788	0.7911469	1.0994517	0.73283297	0.88580334	1.1843945	1.0804699	0.9889535	1.3711182
Caspase 1	0.86668703	1.0923139	0.9358005	0.9580578	0.8977034	0.5574607	0.84388816	0.7342145	0.7885033	1.1840389	2.3632286	1.807872	1.4716772
Cystatin C	0.8536607	0.838111	1.0804843	1.1344842	1.0939704	0.8694426	1.0406481	1.0578218	0.9168271	0.80237724	1.1243123	0.90659153	0.88628247
R5C2C	1.1242343	0.9405784	0.8471983	1.0280762	0.8145025	0.9878539	0.9704976	1.064472	1.1062802	0.8070496	1.2296114	1.1348927	0.9119011
Poly(ADP-ribose) polymerase	0.9469108	1.0371351	0.8419241	1.0171349	0.9688042	0.8038477	1.0195795	0.9571172	0.94630635	1.0405384	1.2128718	1.0137104	0.86823784
Tissue plasminogen activator	1.0563409	0.8884006	1.0880807	0.83747628	0.8061817	0.9612001	0.9720866	0.9204846	0.94284983	1.0360544	1.330673	1.1808128	1.5487895
Multidrug resistant protein-1	1.0284012	0.9975502	0.9481992	0.7844509	1.0686489	1.0062871	1.0926233	0.7333273	1.0481701	0.9889074	0.85693284	1.0288575	1.0520599
Phase-1 RCT-207	0.88046327	0.84753957	0.8722201	0.93187105	1.0971515	0.8690403	0.9137513	0.740268	0.8002393	0.81516274	0.8848231	0.8658882	1.0355797
Phase-1 RCT-181	1.0082766	1.101683	1.0347914	0.957415	1.0540012	1.1098098	0.9512962	0.9537045	0.9535385	0.9078257	0.8705107	0.9463458	1.0355797
Gap junction membrane channel protein beta 1 (GJB1)	1.0670225	1.2069869	1.1214769	0.5049021	1.095991	1.1435916	1.0789326	1.1173323	1.4825072	0.88370496	0.55586237	0.8831976	0.88455965
Ataquaparin-3 (ADP3)	1.0444683	0.9911807	1.0231365	1.0032977	1.0755328	1.022884	0.8655907	0.83626395	0.78989165	1.1409945	1.234099	1.0803064	1.1308035
Myelin basic protein	0.88654214	0.8915825	0.8162658	0.8162658	1.018824	0.8308716	1.1977639	1.0288212	0.7498404	0.8200353	0.7823105	0.8478849	1.0788494
Calgranulin B3	0.9282232	0.94563305	0.88875513	0.89417917	1.1159428	0.8762768	0.71280134	0.81479275	0.87661655	1.0852833	1.1789044	1.0412879	1.1086374

Table 30

Phase-1 RCT-196	0.7737887	0.80509363	0.9803593	0.8290314	1.0292563	1.0655339	1.0721052	1.2062861	1.0197809	0.8991171	0.83722305	0.98051485	0.7652895
Protease activator 28 alpha	0.8700965	0.8842359	0.97189367	1.2974045	0.7578311	0.80755854	1.1085005	0.6941042	0.88059264	1.2056191	1.2596633	1.1701913	1.2806515
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 h: yes=neq; necrosis observed; yes=both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 28)													

Table 30

Table 30. Expression Data for 72 Hour Timepoint													
Compound-Dose (2)	HYD 250	HYD 250	ISON 200	ISON 200	ISON 200	ISON 200	ISON 200	ISON 200	ISON 200	ISON 200	ISON 200	ISON 200	ISON 200
	1228	1228	1228	1228	1228	1228	1228	1228	1228	1228	1228	1228	1228
Animal Number (3)	no	no	no	no	no	no	no	no	no	no	no	no	no
	no	no	no	no	no	no	no	no	no	no	no	no	no
Liver Toxicity Inflammation Classification (4)													
Gene Name (5)	no	no	no	no	no	no	no	no	no	no	no	no	no
	no	no	no	no	no	no	no	no	no	no	no	no	no
Phase-1 RCT-107	0.92286539	0.9724697	1.1931278	1.0266343	1.0351357	1.0104604	1.0258583	1.1820913	0.6416078	1.0320272	1.1641893	0.75789845	1.0401232
Betaine homocysteine methyltransferase (BHMT)	0.9272843	0.75735576	1.8048418	1.1372718	0.8456582	1.1479008	1.0600139	0.7808673	1.0489182	0.5968926	1.5301702	1.5501614	1.8802859
Proliferating cell nuclear antigen gene	1.0001093	0.9472914	0.8763108	1.0670222	1.0278155	0.9705582	0.8651532	0.94811374	1.0018058	0.94412653	0.96083708	0.9178581	0.9178581
Cytochrome P450 2D18	0.7760595	0.76652684	1.3653011	1.0719531	0.8765324	1.0369693	1.0168687	1.0168687	0.7392199	1.3688108	0.9728657	0.9160825	0.9510157
Cytochrome P450 2C11	1.1643682	1.3231397	0.7627284	0.8393621	0.8831849	0.78251084	0.86158174	0.89899484	1.550108	0.7128838	1.3732378	1.2340543	1.4968
Phase-1 RCT-290	1.1610914	0.9130394	0.900566	1.024618	0.96544725	0.9325769	1.051288	0.90455335	0.6819867	0.8914315	1.6769665	1.4707156	1.8076087
Phase-1 RCT-49	0.8980774	1.2447653	1.1789721	0.78156215	0.787057	0.90309604	0.9540843	0.9540843	0.5582786	1.092706	1.1209897	1.0150378	0.9121893
Beta-actin, sequence 2	0.97377414	1.0412716	1.1354617	0.84801835	0.8001689	1.0977262	0.81908735	0.83961823	1.0802272	0.9463383	0.9986186	1.0283955	1.2068067
Phase-1 RCT-292	1.1023988	1.1535336	1.0012902	0.9479887	1.1120521	0.94046235	0.8984328	1.0398449	0.93003837	0.9459887	0.88004943	0.8413398	0.921587
Pyruvate kinase, muscle	1.0635214	0.89963528	0.741921	0.73109424	0.6376267	0.64756256	0.7689531	0.90721005	0.99457186	1.0039778	0.96073523	0.92228678	0.981008
Osteocalcin	1.2242782	1.0988606	1.2330841	1.157032	1.0941331	0.9679047	1.0258203	1.0818103	1.1729551	0.96978535	1.0082265	1.057357	1.0405892
Calgranulin B1	0.84304804	0.7848602	1.4415586	1.2128091	1.3378177	1.1589959	1.0879102	1.3417999	0.94875868	1.024401	1.2431078	1.1254856	1.0557357
Aradiprotein AII	0.6931565	0.5094268	1.7874542	1.3501084	1.062449	0.75581783	0.8957209	0.9624983	1.06583	0.8396686	0.9513488	0.9936955	1.0165778
Connexin-32	1.4069158	1.2159017	1.362888	1.0612887	0.9805675	1.4014689	1.5576108	1.2978588	0.7341641	1.036745	1.0891885	0.9635441	1.0178879
Phase-1 RCT-109	0.9411005	0.75447893	1.2314739	1.1811682	1.027188	1.0490971	1.0361731	1.1718973	0.9427115	0.8946068	0.8871577	0.92398316	0.8651074
Glycine methyltransferase	0.64758784	0.9352298	1.8639434	1.1439337	0.9867357	0.91996527	0.8869964	1.5872816	1.530267	0.9902627	1.1602028	0.8897563	1.0768587
L-glutamate-gamma-lactone oxidase	0.73315126	0.7853391	1.7897788	0.9691461	1.1560551	0.83481987	1.1051009	1.1931689	1.2216848	0.75444365	1.0583967	1.1527449	1.6593752
Phase-1 RCT-256	1.1369187	0.7033049	0.5456157	1.018753	1.1688067	1.1170045	0.9463447	1.191083	1.1217816	0.9324276	1.2350627	1.1297058	1.2245968
Carbonic anhydrase III	0.94287896	0.99154093	0.49239161	0.3609514	0.6332722	0.6896189	0.2824366	1.0098414	1.0008848	0.7307589	0.9910884	1.2110622	1.7699786
Phase-1 RCT-78	1.093253	1.0050827	0.8098785	1.0097878	0.9096597	1.022914	1.0905014	0.9615251	1.0681082	1.1640416	1.0239267	0.88123988	1.0582012
Urinary protein 2 precursor	0.9523318	0.8688847	0.8048517	0.7828869	0.72607887	0.7607808	0.815804	0.8028333	1.2283452	0.9100761	0.8906963	1.1302842	1.0251763
Insulin-like growth factor 1	0.79534104	0.77337414	1.0495982	0.7648154	0.8418666	0.8667726	0.8973891	0.9843528	1.3885748	0.7124481	0.9073932	1.2889586	1.0688842
Aryl sulfotransferase	0.7682665	0.6823414	1.1563323	0.93708466	0.7096842	0.7584294	0.769752	0.81847245	1.0082266	1.0800873	0.96433965	1.2145585	1.0984297
Phase-1 RCT-185	0.7807513	0.69875306	0.84927297	0.75920314	0.82691497	0.8307931	0.82496023	0.858102	1.146114	1.0600067	1.0456571	1.1121196	1.1070797
Cofilin	1.0956469	1.1438875	0.554843	0.99722874	0.8158853	1.0301483	0.9227086	0.9106188	1.1469148	0.94545054	0.9915668	1.110541	1.0722455
Stathmin	1.0455275	1.1606138	0.954189	0.94826383	1.0049842	1.0471414	0.9208693	0.9764895	1.0357677	1.0036066	0.9932861	0.8868286	0.9606818
60S ribosomal protein L6	0.8989566	0.9935814	0.77152306	0.810666	0.81737614	0.8244419	0.8344173	0.83306193	1.1487308	1.0748465	0.9424394	1.0485139	0.92316204
Calpastin heavy chain	1.0554715	1.0651771	0.93030665	0.8336997	0.8505245	0.8461877	0.8057514	0.8689113	0.9851827	0.928306	1.063261	1.0167885	1.0734273
Collagen type II	0.8416931	0.8022246	0.6748154	0.6951772	0.58130886	0.65145416	0.7143802	0.89403635	1.2328186	0.7511486	0.8523828	1.090308	0.9010714
Phase-1 RCT-179	0.9822825	0.99797878	0.6629175	0.859517	0.931183	0.9627153	0.9313591	0.9494024	1.0972873	1.0647617	0.8997114	0.8990919	0.903918
Voltage-dependent anion channel 2 (Vdac2)	1.0423484	0.97298546	1.1089725	0.9760979	1.1328138	1.0424465	0.9891527	0.9927568	1.2119931	1.0756541	1.0999397	1.0738385	1.0942107
Phase-1 RCT-192	1.0432427	0.94700864	1.014138	0.95707816	0.8630659	0.88160005	0.9677834	0.9520295	1.3018655	0.9023318	0.8504744	1.0238671	0.8010121
Adenosine nucleotide translocator 1	0.7069881	0.94534445	0.4621695	0.48199358	0.47289308	0.48687539	0.48030517	1.14787	0.8575543	0.923081	0.99120563	1.0200942	0.8010121
Thymosin beta-10	0.7728655	0.789062	0.495978	0.93031514	0.8290003	0.8504684	0.84719145	1.0671115	1.0714476	0.9673879	0.9273673	0.8716582	0.8310276
High affinity IgE receptor gamma chain (FcERlgamma)	1.1576936	1.1004995	0.8363566	1.0194733	1.0120776	0.8743646	0.888869	0.9021323	1.1363585	1.0432348	1.0214124	1.0686034	1.0528743
Gamma-actin, cytoplasmic	0.85605284	1.039812	0.9812564	0.7499938	0.8185252	1.1537331	1.0010753	0.7059606	0.8008093	0.8682188	0.76398284	0.9713873	1.248057
Uncoupling protein 2	1.1095238	0.9906051	1.0611308	1.0439843	0.9004821	1.0369588	1.0065987	1.1526465	0.8807271	1.0007331	0.9286529	0.84186816	0.8775904
Phase-1 RCT-34	1.2249824	0.86005166	0.938076	0.9689796	0.9834876	1.0201324	1.0536255	0.87564805	1.0424504	0.9851233	0.93806463	1.0094438	1.2586462
Phase-1 RCT-31	1.2203081	1.0234023	1.0210528	0.9744128	1.050603	1.098377	0.98368874	1.0112945	1.408673	1.1313214	1.1830842	1.2358509	1.2602823
Cyclin D1	0.8371783	1.3274584	0.68569894	0.58919098	0.9200228	0.7035454	0.834072	1.14126	1.123014	0.7746915	0.8279488	1.0806985	1.101482
IgE binding protein	1.1946119	1.0742306	0.87703	0.9575553	0.8876343	0.857668	0.8568784	0.8134148	1.0012897	1.0960099	1.1123488	1.0677852	1.0173423
Zinc finger protein	1.0335448	1.620849	1.0355797	0.951571	0.97801733	1.0489175	0.9655274	0.9345885	0.892592	1.2830791	0.9041849	0.857519	0.8497521
Phase-1 RCT-138	1.056592	1.0845968	1.109931	1.0748842	1.026257	0.8251018	0.8600284	0.9476534	0.88609594	1.0006538	0.9914349	1.0106298	0.92748955
Alpha-tubulin	0.79030246	0.99473818	0.8737834	0.6681584	0.7486613	0.75839555	0.87659734	0.8201845	0.8593589	0.83468616	0.83148078	0.986404	1.1238892
Alpha-phosphorylase	0.99340175	1.0737407	0.7001056	0.8766108	0.71014875	1.0921605	0.84124357	0.86984648	1.1920507	0.8250034	0.93345326	1.0802723	1.0084984
Calpain 2	1.1024749	0.96804036	0.888175	0.9907296	0.9354279	0.830868	0.9250379	1.005541	1.0074108	1.0313428	0.9740973	0.9683036	0.9683036
Phase-1 RCT-12	1.1289008	1.0064638	1.2898413	1.0430565	1.1001389	1.0749242	1.1058678	0.9188795	0.8878962	0.9885576	0.88916016	0.8892046	0.8892046
Cathepsin B	0.8683336	0.85729915	0.9081716	1.1465163	0.83622706	0.968678	0.9188795	1.1732001	1.02846096	0.92846096	0.8679422	0.8679422	1.0320802
Phase-1 RCT-24	1.0492853	0.97400105	1.417487	1.049154	1.085146	1.0580435	1.3424087	1.1582974	1.1246889	0.7630836	0.84425545	1.0721177	1.2694421
Melanoma-associated antigen ME491	1.0918578	1.1615111	0.8710998	1.0608941	0.8780127	0.94800436	0.85708666	1.1711034	0.9610675	1.0187886	1.1822474	1.043293	0.9894872

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Phase-1 RCT-58	1.1457831	1.1326951	1.1053684	1.0612122	1.1094847	1.0234134	1.0023066	1.045464	1.0570312	1.0127146	0.9530968	1.0354531
Cyclin G	0.9557893	1.8044132	0.8288854	0.8008923	0.8587892	0.9482444	0.9266724	0.9076881	1.0554134	1.002724	1.0358663	0.9579595
Hypoxanthine-guanine phosphoribosyltransferase	0.93359695	0.8972337	1.009886	0.8023598	0.8660803	0.8997777	0.8617707	0.838232	0.9289717	1.091909	0.9387038	1.0728774
Tissue inhibitor of metalloproteinases-1	1.055102	0.938503	0.80510635	0.89252955	0.950938	0.9467795	0.87390204	0.98894864	1.0004644	0.9954701	1.000822	0.96509764
ID-1	0.91413146	0.9573936	0.92477653	0.90341386	1.0179568	0.87468955	0.8107897	0.8925804	0.9001629	0.8473002	0.8433445	0.9088888
Ribosomal protein S9	0.9280816	1.0046872	0.8030333	0.8050282	0.84231637	0.8100992	0.8100992	1.066633	1.1360338	0.9508739	1.1176602	0.9088888
Hemoglobin	1.3539224	1.1699336	0.7814852	0.82020584	0.8778708	1.0470748	0.9709157	1.0647852	1.0053705	1.2504077	0.8827475	1.0163479
Ribosomal protein S8	1.0336319	0.77654797	0.92598666	0.7663433	0.8502091	0.88942835	0.75981057	0.836594	1.1908447	0.8042874	0.8012668	0.9672188
Ribosomal protein S17	1.1602547	0.94436205	1.012943	0.8993863	0.87818885	0.9332551	0.84847858	0.835555	1.1703588	0.8701048	1.082341	0.89656025
Nucleoside diphosphate kinase beta isoform	0.95483506	0.91441383	1.093405	1.0640682	1.0173595	0.9994075	0.9977208	0.9048863	0.8725343	1.025858	1.0435872	1.0018204
Phase-1 RCT-121	1.1590191	1.2677963	0.9484252	1.0323154	0.9398453	0.98994464	0.9847119	0.9462473	0.86273414	1.0812108	0.8921852	0.91342056
14-3-3 zeta	0.93471634	1.0359732	0.95117635	0.8630117	1.0078476	1.0023598	0.8738337	0.90200293	1.1647095	1.0906253	0.8959833	0.9071149
60S ribosomal protein L6 (alternate clone 1)	0.9951622	0.78815933	0.9734076	0.5851187	0.8020334	0.91296508	1.043337	1.107557	1.1647095	1.0906253	0.8959833	0.9071149
Beta-tubulin, class I	1.228412	0.85614934	1.5913781	0.8574254	1.0525975	1.1443376	1.3345822	0.904784	1.1831266	0.73178228	0.80482703	1.201948
Beta-actin	0.82342967	0.9669804	0.8637668	0.8576639	0.8247593	0.9058525	0.9200178	0.9380702	1.1333358	0.88089548	0.79154074	0.89849115
Organic cation transporter 3	0.87748337	0.74697304	0.82910927	0.4605782	0.42227265	0.66191316	0.9654687	0.50706965	0.8933368	0.86590747	1.027671	0.68949115
Cathepsin S	0.87748337	0.74697304	0.82910927	0.4605782	0.42227265	0.66191316	0.9654687	0.50706965	0.8933368	0.86590747	1.027671	0.68949115
Glutathione reductase	1.0694534	1.1122338	1.0203092	1.0208349	1.0866397	1.055083	0.88349744	0.9461063	0.91387584	0.9466858	0.96062098	1.0471783
Phase-1 RCT-154	1.1584938	1.0821053	1.2451885	1.0335827	1.1074816	1.019525	0.9533005	1.021227	1.0685546	1.0148282	0.8509297	1.0831414
Phase-1 RCT-283	1.1589872	1.1019789	0.79167145	0.8300282	0.8399776	0.7238581	0.7311563	0.8844661	1.0460149	0.9782187	0.97026338	1.033324
Annexin V	0.81089285	0.9115061	0.7916028	0.7947308	0.90208165	0.8947883	0.85258925	0.86230683	1.2892718	0.9431049	0.79179424	1.1271278
Complement factor I (CFI)	1.1287588	0.9527894	0.8749739	0.9623108	0.9070067	0.980918	0.800288	0.83386828	1.0352032	1.0682417	0.7618694	0.87330207
Phase-1 RCT-276	1.078148	1.1735798	0.984979	0.9448974	0.9787228	0.96391984	0.955602	0.93848664	1.0178839	1.0832926	1.0003814	1.0360373
Lysine aminotransferase	1.0081086	1.8485187	1.3031887	1.092164	1.1454928	1.1001376	1.1346015	0.70118596	1.480053	1.0404547	0.8643437	1.1193905
Glutathione peroxidase	0.8504877	1.041741	1.3701631	0.8654027	0.77418756	0.7633041	0.8549006	0.8167382	1.2539189	0.89169174	0.76548074	0.8147742
Histidine-rich glycoprotein	0.8281089	1.0515921	1.3362929	1.0654566	0.74878874	0.91378003	0.8676382	1.037949	1.240288	0.82551783	0.76464208	0.81732553
Carbonic anhydrase III, sequence 2	0.8675798	1.0391556	1.127277	0.8322087	0.9309417	0.9440785	0.86719252	0.8771798	1.2925958	0.9288878	1.0295312	0.8553417
Phase-1 RCT-402	1.144913	1.1912084	0.7803459	0.8334598	0.92425847	0.9171854	0.83396274	0.7378725	0.6008858	0.9288848	0.8167679	0.9129844
Phase-1 RCT-48	1.0759413	1.2034101	0.9092463	0.9698961	0.93444335	0.9818854	0.7333198	0.8813055	1.1427572	0.8877189	0.81976804	1.0203118
Phase-1 RCT-298	0.9589738	0.8582792	1.0287756	1.0127369	1.0317634	0.9034109	1.1876276	0.8630713	1.1312673	0.8068988	0.8865862	1.2118234
Phase-1 RCT-1	1.0945604	1.0139138	0.819258	0.7258421	0.9149855	0.8700864	0.7428916	1.0755183	0.90018168	0.7832381	1.070837	0.9627537
Glutathione S-transferase theta-1	0.878427	0.9647585	0.99149543	0.9041769	0.8698092	0.92532897	0.8431193	0.7874789	0.87839603	0.4983657	0.8568317	0.85782213
Phase-1 RCT-168	1.1421751	1.189279	0.9413164	0.9202335	0.8384518	1.0177329	1.1125828	1.1178744	1.1671755	0.9041103	0.92953339	0.8598128
ANK1 stress activated protein kinase	0.84730893	1.0397791	0.7931731	0.8429429	0.81632745	0.9725926	0.8056396	0.7633087	0.7731283	1.0795687	0.78082128	0.948823
Phase-1 RCT-81	1.1132449	1.2010175	0.9341255	1.0188972	1.1004592	0.92710394	0.9353724	0.9236269	1.0434995	1.0574105	1.1520783	1.0520783
Phase-1 RCT-33	0.8688896	0.87396533	1.5780809	1.1403052	1.0328668	0.87107138	1.0277582	0.7743907	1.0611541	0.8659008	0.88116659	1.0110186
Phase-1 RCT-178	0.93274556	0.93514863	0.90310926	0.8933609	0.7653512	0.86707834	0.7750191	0.85043994	1.0747359	1.320227	1.3921837	0.5768883
Apolipoprotein CIII	1.167826	1.1131845	0.9369403	1.009007	1.0517182	1.007516	0.8983808	0.9800897	0.8941011	0.966181	1.0519491	0.9106597
Phase-1 RCT-48	1.192851	1.0219376	1.2048682	0.905277	0.7384718	0.8268973	1.0780107	0.98130514	0.9241011	0.83594424	1.1180658	1.050827
NADH-cytochrome b5 reductase	0.94824827	0.9059076	0.81277592	0.88796824	0.8052716	0.8402171	0.89347726	0.74718894	0.82563776	0.8061589	0.78118596	0.91631407
Alpha 1-inhibitor III	1.4078891	1.2812454	1.0780561	1.0698046	0.86077087	0.8382201	0.86888277	1.0244526	1.0854434	0.9147325	0.87584393	0.9465771
Paraoxonase 1	1.0020653	0.8650514	0.87597055	0.8506688	0.81224145	0.707365	0.67923373	0.62559284	1.1025195	1.0417895	0.8626515	1.0941684
Presenilin-1	0.88718935	0.9209028	0.3221889	0.8363553	0.79136246	0.8381215	0.8911779	0.78493577	0.9884903	1.0257176	0.82493518	0.97300164
Apolipoprotein C1	0.8825981	1.169885	0.823021	0.84326437	0.74068764	0.70033733	0.7624822	0.8328909	1.0450132	1.2988476	0.8815001	0.87634206
Cytochrome P450 2C23	0.8814333	0.9565458	0.8870715	0.8373309	0.86888258	0.93968724	0.93668046	0.70145744	0.9639448	1.111825	0.8322894	0.89465625
Phase-1 RCT-227	1.1679405	1.0021331	0.79313948	0.8448278	0.74417783	0.8452017	0.8879592	0.76488924	1.1789032	1.570384	0.9449782	0.97578816
Hepatic lipase	0.7965629	0.8366526	0.76772005	0.80592514	0.68033167	0.7850535	0.79254097	0.5921786	1.1251222	0.699703	1.0430275	0.89258894
Phase-1 RCT-164	0.8532848	1.0821102	0.997409	1.047536	1.0390987	1.0663508	1.0163997	1.1685184	1.0252593	0.9875138	1.0063412	1.1421489
Insulin-like growth factor I, exon 6	0.8116767	0.72092265	0.8878503	0.8300833	1.164813	0.8513398	1.0366032	1.0207151	0.8655845	0.8431806	0.8054094	0.83145714
N-hydroxy-2-acetylaminofluorene sulfotransferase (STAC1)	0.75646245	0.8662008	1.2535574	0.8208702	0.91945078	1.0073384	1.0590205	1.0082382	1.3877392	0.8534557	1.0005628	1.0401657
Phase-1 RCT-283	0.9083827	0.880448	0.82286	0.6327085	0.7273149	0.72810525	0.44323933	0.88878417	1.0650669	0.8558993	0.8776539	1.1009021
Dynamin-1 (D100)	1.163745	1.0504559	0.96143854	1.0309279	0.9937413	0.98861444	0.9882142	1.0112592	1.0924703	0.9805565	0.87484094	0.9588119
DNA polymerase beta	0.8368895	1.0333169	0.9122549	0.8274902	0.8724851	0.89336113	0.79786307	0.8889438	1.2258183	0.90412118	1.0724381	1.2063758

Table 30

Phase-1 RCT-173	0.9258698	0.97009766	0.9898964	1.0957845	0.95501757	1.0300466	0.8508185	1.081977	0.7318827	1.1358281	0.9540911	0.9824165	1.084028
Ubiquitin conjugating enzyme (RAD 6 homologue)	0.8526225	1.036951	1.2787204	0.9174869	0.91167705	0.97316235	0.9697661	1.0050669	1.0776992	1.0538842	0.8922252	1.0918848	0.9169894
Ribosomal protein L13A	0.9155339	0.71342987	1.1756323	1.1156323	1.0607251	1.0341544	1.0560301	1.0291173	0.9553835	0.9579708	0.8607319	0.87151265	0.8388116
Phase-1 RCT-144	1.2078208	1.1315463	0.8841462	0.8861183	1.0560041	0.9422835	1.0562835	0.9988572	1.1832355	0.9882952	0.8862852	0.9659824	0.94501215
C-H-ras	0.8352328	0.70270284	1.2842847	1.323174	1.1557741	1.1694304	1.1694304	1.175341	1.1483988	0.9804145	0.963653	0.9519004	0.97782
Vesicular monoamine transporter (VMAT)	1.1107303	0.8866185	1.09026	1.085957	1.014851	1.1872024	1.139098	1.0171847	1.191168	0.9171847	0.8519004	1.0306023	0.9717845
Phase-1 RCT-273	1.2492069	0.463393	0.9858635	1.030439	0.958427	1.0142138	1.0191325	1.0514371	0.9055237	1.2301352	1.1621027	1.0369163	0.98304266
Phase-1 RCT-230	1.1980886	0.9884104	1.116379	1.1287479	1.0963312	0.976892	1.0262714	1.0262714	0.9654005	1.1512678	1.0514355	1.0404875	1.1560347
Phase-1 RCT-174	1.2256181	1.0811804	1.037946	1.0395913	1.0739472	1.0010176	1.0240707	1.0681988	0.9504286	1.0905281	1.2108192	0.9818388	1.1560347
Phase-1 RCT-80	1.1734665	1.0482282	0.972923	0.9577682	1.0983976	1.0076007	1.0682748	1.2031457	0.8912897	1.1380451	1.2768317	0.9772716	1.0128786
Phase-1 RCT-158	1.2110095	1.2489781	0.9054163	0.9696357	1.0189151	0.9855094	0.9603318	0.9539014	0.8315605	1.1345698	0.9591553	0.9174224	0.8537157
Decoylactone kinase	1.4005208	0.196227	1.0107285	1.0451061	1.1610999	0.9485223	1.0285974	1.020483	0.9208002	0.9892598	0.9053256	0.8786174	0.7626121
Inositol polyphosphate multikinase (Ipmlp)	1.0365821	0.9858608	0.97408104	1.0047269	1.0294106	0.9485223	1.0285974	1.020483	0.9208002	0.9892598	0.9053256	0.8786174	0.7626121
Neuronal cell adhesion molecule (NCAM)	0.98397534	0.93811824	1.0275081	1.244836	1.0822332	1.1309347	1.4707489	0.9949786	0.7605791	1.149704	1.149078	0.9428335	0.982868
Hepatocyte growth factor receptor	1.0607803	0.95777464	1.0847012	1.1724561	1.2781624	1.0966933	1.082408	1.0523983	0.8240544	1.1471714	1.1250255	0.882962	0.96512425
Empty	1.3164663	1.0513295	0.97034454	1.0615968	1.0994933	0.98923433	1.082408	1.0523983	0.8240544	1.1471714	1.1250255	0.882962	0.96512425
Dopamine receptor D2	0.9735164	0.97997883	0.9865675	1.1028165	1.0340681	1.0216401	1.197543	0.9805276	1.2202303	0.982112	1.0354171	1.1020715	1.1287442
Phase-1 RCT-51	1.388544	1.2340824	1.0846267	1.093361	1.0603758	1.0246074	1.1389732	1.0283488	0.96831354	1.0017756	1.0927024	1.0223778	1.0533367
Four repeat ion channel	1.237426	1.1188577	1.032285	0.9721688	1.0464317	0.9850679	1.0506659	1.0428351	0.89754905	1.1731018	1.0768412	0.94351065	0.93401325
Adrenomedullin	1.5238719	1.1397445	1.0016223	1.1480233	1.1131228	1.0471852	1.2602229	1.2338146	0.8778893	1.3921438	1.409285	1.1051658	0.84493023
Caveolin-3	1.182052	1.0349427	0.92878675	0.95917845	0.9455404	0.9008501	1.0313575	1.0880543	0.84073555	1.0931797	1.167175	1.0971639	1.0114973
Phase-1 RCT-129	1.1682869	1.01828	1.0806021	0.9790014	0.8946634	0.9789132	1.037488	1.0693817	0.9693817	0.8976206	1.0476089	0.98728934	1.0896717
Phase-1 RCT-64	1.1638447	1.183551	0.9977044	1.4744184	1.2500349	1.1885788	1.1776285	1.1771788	0.8887809	1.140481	0.9680222	0.91015756	0.9915994
Sarcoplasmic reticulum calcium ATPase	1.0424198	1.0811398	0.8161457	0.8651067	0.8474566	0.8393735	0.9803028	0.9483767	0.8818173	1.0511432	0.9860315	1.0052936	1.0280753
Phase-1 RCT-79	1.2373027	1.0220457	1.08855	1.0817768	1.0752407	1.0025477	1.0640537	1.007478	0.9853311	1.0753992	1.1033069	1.0857148	1.0502165
Phase-1 RCT-252	0.0457062	1.1593858	1.2489158	1.132546	1.1343902	1.0515288	1.0650081	1.0795904	1.1321471	1.1859007	1.1147147	0.97352415	1.0538984
Phase-1 RCT-151	0.94124436	1.0289825	1.0702791	0.8765353	0.83441865	1.0409196	0.94550188	0.9539296	0.9594015	0.8976206	1.0476089	0.98728934	1.0896717
Phase-1 RCT-70	1.0777615	0.976214	1.10157	1.0728228	1.044673	1.0572181	1.0397488	1.0693817	0.9693817	0.8976206	1.0476089	0.98728934	1.0896717
Phase-1 RCT-150	1.1677885	1.1128631	0.9977044	1.4744184	1.2500349	1.1885788	1.1776285	1.1771788	0.8887809	1.140481	0.9680222	0.91015756	0.9915994
25-hydroxyvitamin D3-1 alpha-hydroxylase	1.1503277	1.161435	1.4253159	1.0515465	1.0808257	1.0431283	1.1160212	0.9659031	0.86423457	2.0831847	0.9504773	0.8876423	0.9043651
Phase-1 RCT-119	1.2856392	1.1534467	1.0892039	1.1220393	1.100944	1.0226914	1.1038182	1.0029286	1.0661698	1.2088695	1.1857121	1.0300233	1.285224
Pentoxifylline 3-ketoads-CoA thiolase 2	0.82117605	0.80708694	1.1354029	1.2043141	1.1188744	1.2866836	1.1036228	1.3057339	0.9171659	1.0702373	1.0818802	0.7408308	0.9855904
Phase-1 RCT-146	1.4474351	1.4390094	0.9198655	0.9910388	1.0510813	1.0046166	1.0213746	1.0009739	0.9230637	1.0854278	1.0088149	1.0845592	0.9810955
Superoxide dismutase Mn	0.9446898	0.807842	1.4188879	1.028524	1.2205307	1.1197699	1.0768788	1.1350104	1.1116402	1.0823654	1.0161247	0.9709012	1.0361359
Phase-1 RCT-116	1.2668917	1.0473993	1.1028868	1.1539742	1.1811925	1.1408703	1.1622535	1.1180978	0.70662828	1.0805992	1.1213825	1.0542838	0.9670416
Alpha-1 microglobulin/ikilinin precursor (Amlp)	1.0114069	0.85763765	0.9742202	0.939552	0.903801	1.0374234	0.8097115	0.9424318	1.1227962	1.0573705	0.966149	1.0744886	1.0001813
Phase-1 RCT-18	1.0915126	1.0348438	1.0204103	0.9894295	1.0363389	0.9824033	1.0130593	1.0408089	0.9980239	1.0081232	1.0330995	0.94380087	0.98404095
Maspain	1.3348398	1.0943972	0.9486434	1.0801109	1.0471873	0.9848814	1.1254734	1.0565989	0.8577701	1.1742934	1.1056011	1.049484	0.9181093
Decolin	1.3143756	1.0050756	0.5047364	0.5625447	0.8224971	0.52818614	0.54028884	0.6758401	0.80918885	1.2871516	1.1246088	0.970209	0.9094235
Retinoid X receptor alpha	0.81207833	0.7956547	1.0102285	1.103093	1.0964313	1.0700383	1.1867895	1.1043088	0.8441868	0.95001113	1.0220878	0.864001	0.9706469
Cellular nucleic acid binding protein (CNBP)	0.8027088	0.8188231	0.8325287	0.72232753	0.7907036	0.76523803	0.74786776	0.8000132	1.0316854	0.9295343	0.8934838	0.8949008	1.0246934
NADPH cytochrome P450 oxidoreductase	0.894586	0.83724797	1.488397	1.358533	1.2210888	1.4022211	1.6880288	1.3055189	0.760504	1.171578	1.1249125	0.9905728	1.0957007
Malic enzyme	1.2900842	1.1720154	0.8465513	0.91543573	1.0422187	0.968275	1.3543574	0.8326716	1.3307122	0.61323154	1.2905203	1.1307508	1.1531081
Caspase 1	1.2244196	1.2188511	0.8704605	1.0484889	1.0549728	0.99764057	1.0303358	1.0419173	0.93951154	0.96503204	0.9520919	0.87521476	1.1066992
Cystatin C	1.1459326	1.0246291	0.8879881	0.8251435	0.85179955	0.8704144	0.7028129	0.90473396	0.90233728	0.9827725	0.8428884	1.008019	0.9143028
p53/CDC	0.839082	0.8595532	0.8871023	1.0502107	1.1131505	1.093598	1.0924687	1.03934834	0.9045834	0.9875785	0.92990476	1.0152817	0.8544423
Poly(ADP-ribose) polymerase	1.0731474	1.0832843	0.98810204	0.9887846	0.98704803	1.060549	1.0054617	0.9130834	0.90565084	0.9157858	0.9991729	1.0011454	1.0294119
Tissue plasminogen activator	1.1202401	1.0566279	1.0397718	0.9864039	0.89932224	0.9744875	0.9928303	1.0137887	1.0537682	0.9543034	1.0871182	1.0410353	1.0798928
Multidrug resistant protein-1	0.7876397	0.8503421	0.9519875	0.9714757	1.1281227	0.9176693	1.0657707	0.8466104	0.4635768	1.0361282	1.1036029	0.833957	0.8732235
Phase-1 RCT-207	0.99106245	1.0285404	0.9452741	0.8719889	0.8800488	0.83275267	0.8542062	0.9652722	0.9009885	1.0690686	0.96978045	0.8851281	0.9768459
Phase-1 RCT-181	0.9884897	1.0190814	1.4121065	1.0719204	1.0840953	1.1825291	1.3157303	1.0776811	0.8923086	0.9852884	0.8542957	1.0564018	0.8658041
Gap junction membrane channel protein beta 1 (Gjb1)	0.9741323	0.77976716	2.0783279	1.4960429	0.9713863	1.127146	1.6839608	1.573117	0.7620676	1.2235538	1.5970058	0.8768648	1.43217
Aquaporin-3 (AQP3)	1.300238	1.1355637	0.888746	1.0280287	0.92815304	0.92815304	0.90899074	0.92183554	0.9837914	0.986083	1.0026027	0.9955408	1.0201402
Myelin basic protein	0.82115594	0.82259727	1.1889746	1.0285991	0.9037796	1.148134	1.154573	1.148134	0.76206666	0.9871337	0.89399717	0.81371695	0.8300928
Calgranulin B3	0.97203416	1.2430994	0.98447107	0.94548235	0.86070373	1.0578875	0.9639002	0.9488586	0.97669186	1.034677	0.9556306	1.0234357	1.0266551

Table 30

Phase-1 RCT-156	0.9743834	0.97000634	1.0422528	0.9607407	0.92531216	0.8820789	0.92366104	0.9336618	0.9608464	0.95014036	0.9285223	0.93055945	0.84968456
Protease activator 28 alpha	1.2557881	1.1516234	0.6509741	0.55945995	0.7278985	0.78140306	0.7106207	0.6948155	0.98500973	0.8277978	0.8208424	1.0107173	0.9269862
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 hr: yes=recr, necrosis observed; yes=bofr, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive genes (as in Table 23 and as included in Table 26)													

Table 30

Table 30. Expression Data for 72 Hour Timepoint

Table 30. Expression Data for 72 Hour Timepoint																
(1)	KEETO 80	LPS 2	LPS 2	LPS 2	MET 5	NAL 180	NAL 180	NAL 180	NAL 180	NAL 45	NAL 45	NAL 45	PBARB 20	PBARB 20	PBARB 20	PBARB 20
	2239	no	347	348	349	238	2657	2658	2659	no	2647	no	2648	no	2649	2677
Animal Number (3)																
Liver Toxicity Inflammation Classification (4)																
Gene Name (5)																
0.77611244	0.65592567	1.6875018	1.318598	1.094159	0.84420564	0.82431847	1.178438	0.8031592	0.94859457	0.9083006	1.6978346	1.0028948				
Beta-1ine homocysteine methyltransferase (BHMT)	1.27551	1.409062	1.3421058	1.282184	0.578084	1.1963247	1.5138712	2.4859149	1.0031781	0.9832191	3.905292	2.6159781				
Proinflammatory cell nuclear antigen gene	0.98635327	0.783894	0.8050548	0.9617404	1.8337828	1.0759054	0.8511896	0.534624	0.9351331	0.96821495	0.77867267	1.1742781				
Cytochrome P450 2011	0.7026509	0.94022585	1.203407	1.0645016	0.85450006	1.0298858	1.0851332	1.1076638	1.1265297	1.1161692	1.9704049	1.9568003				
Cytochrome P450 2011	0.71205942	0.9747297	1.0719885	0.7638187	1.0457214	0.9179473	0.94571214	0.9373985	0.7637638	0.82934884	0.7049677	0.95973505	0.8060056			
Phase-1 RCT-280	1.2459372	1.2137754	1.4844711	1.1638888	0.7509206	1.225132	1.4778811	2.0895183	1.3822116	1.028978	1.0431764	2.647869	1.8948998			
Phase-1 RCT-280	1.3323259	0.9400855	1.0823638	1.1628749	0.94103867	0.85268834	1.1535552	0.9385072	1.0512877	1.1766977	0.85025234	0.88787474	1.8359005			
Beta-actin, sequence 2	1.0248484	1.2687661	1.4419211	0.91948516	0.68405634	0.89663114	1.2185803	1.3021172	1.1175635	1.0407416	0.9671327	1.1109042	1.2532952			
Phase-1 RCT-282	0.9387318	0.9281352	1.1484786	1.0035225	1.037163	1.0211056	0.9348814	1.15737	0.9863367	0.9778205	0.9648497	1.172015	1.1697378			
Protein kinase, muscle	0.9407385	1.1048738	1.1109719	1.073597	0.8607398	0.8484954	1.0688236	0.9406858	0.9078581	0.9147662	0.98919564	1.000005	1.0104872			
Osteocalcin B1	1.221727	1.2177944	1.3501774	0.950557	0.89041394	0.91088957	0.8745469	0.94682753	0.8478123	0.861723	0.934278	0.8888761	0.8189213			
Adiponectin	0.6444051	2.6553373	2.9859892	0.7418725	0.39403908	0.6888653	0.8023305	1.117387	0.5854952	0.6231088	0.6820002	1.9497358	1.1971053			
Comin-32	1.116451	1.0476396	1.112441	1.040237	1.038749	0.81740555	0.9152579	1.220646	1.060558	0.931136	1.0914255	1.1723491	1.0515654			
Phase-1 RCT-109	0.6263556	1.3273343	1.5537783	1.0129572	0.78418954	0.89913245	0.97080158	1.020646	0.9652577	0.9944954	0.9818392	0.8921558	0.9286085			
Glycine methyltransferase	0.9392197	0.9574695	1.2324402	1.068006	0.9862745	1.905613	1.3767093	1.4148914	0.7542598	0.7525995	0.9361524	2.4702864	1.1170148			
L-glutamate gamma-lycine oxidase	0.8963897	1.2294038	1.4841219	0.94992805	0.7052341	1.0827869	0.9547021	1.0002902	1.0677986	1.0477986	1.0363024	1.9307029	1.464568			
Phase-1 RCT-285	1.0903949	0.593712	1.4875815	0.7744769	0.6823454	0.9484351	0.9219807	1.390994	1.2268669	0.9381455	1.3761029	1.4763969	1.6079495			
Phase-1 RCT-78	1.116067	0.89130675	1.0771417	0.7540003	0.35709143	1.0183384	0.9444351	0.9219807	1.390994	1.2268669	0.9381455	1.3761029	1.4763969			
Ureapylase	0.938648	2.222598	0.6611029	0.87101836	0.36709143	1.0183384	0.9444351	0.9219807	1.390994	1.2268669	0.9381455	1.3761029	1.4763969			
Insulin-like growth factor-1	1.0686815	0.8189213	0.9220709	0.6526367	1.0353371	0.8298308	0.9444351	0.9219807	1.390994	1.2268669	0.9381455	1.3761029	1.4763969			
AVI sulfotransferase	0.77017584	1.0952056	1.108648	0.9426278	0.63247095	1.1731468	1.0158004	1.816462	1.1680014	1.2536321	1.2885473	1.1494666	1.1518876			
Phase-1 RCT-185	0.843372	1.9025788	0.8378089	0.92367095	0.7206132	1.1881813	1.2071902	1.3286521	1.2685473	1.1494666	1.1518876	1.1518876	1.1518876			
Coflin	0.83100724	1.5354094	0.9722518	1.0044409	0.8003139	1.2554589	1.2534393	1.9379179	0.9716484	0.9299006	0.94697803	0.8095404	0.7271207	0.9368342	0.8712868	0.8044626
Statmin	1.128814	0.9287383	1.0722518	1.0044409	0.8003139	1.2554589	1.2534393	1.9379179	0.9716484	0.9299006	0.94697803	0.8095404	0.7271207	0.9368342	0.8712868	0.8044626
gcsf receptor protein L6	0.8119853	1.2581455	1.1335972	1.0197177	0.5047867	1.8596851	1.1682615	1.0534219	1.2938137	0.93717684	1.1853736	1.2877588	1.0913744	0.9438688	1.1315844	0.7056252
Calpain I heavy chain	1.2977212	0.73756451	0.8323457	1.3210863	1.7413026	0.8501747	0.8667616	1.0041624	0.8871964	0.74383977	0.78614648	0.8930218	0.77150224	0.77150224	0.77150224	0.77150224
Collagen type II	0.2597212	0.73756451	0.8323457	1.3210863	1.7413026	0.8501747	0.8667616	1.0041624	0.8871964	0.74383977	0.78614648	0.8930218	0.77150224	0.77150224	0.77150224	0.77150224
Voltage-dependent anion channel 2 (Vdac2)	0.84116364	1.8406585	0.95282155	1.0719884	0.8641387	0.9809595	0.9435917	1.1651349	0.9227768	0.792768	0.93065103	0.9653071	0.89719209	0.8287247	0.7186868	0.7186868
Phase-1 RCT-179	0.84116364	1.8406585	0.95282155	1.0719884	0.8641387	0.9809595	0.9435917	1.1651349	0.9227768	0.792768	0.93065103	0.9653071	0.89719209	0.8287247	0.7186868	0.7186868
Phase-1 RCT-182	0.84116364	1.8406585	0.95282155	1.0719884	0.8641387	0.9809595	0.9435917	1.1651349	0.9227768	0.792768	0.93065103	0.9653071	0.89719209	0.8287247	0.7186868	0.7186868
Adrenine nucleotide translocator 1	0.91587595	0.836757	0.64735748	0.85789	0.9250249	0.8800742	0.8800742	0.8800742	0.8800742	0.8800742	0.8800742	0.8800742	0.8800742	0.8800742	0.8800742	0.8800742
Thyrosine kinase-10	0.98932486	1.3634974	1.3242525	1.1440005	0.79905537	1.0216744	1.1060881	0.82067845	0.92067845	0.92067845	0.92067845	0.92067845	0.92067845	0.92067845	0.92067845	0.92067845
High affinity IgE receptor gamma chain (FcεR1γ)	1.114804	1.5133718	0.948978	1.1438844	0.79926574	0.6633467	1.0689501	1.0565586	1.1036772	1.0565586	1.1036772	1.0565586	1.1036772	1.0565586	1.1036772	1.0565586
Gamma-actin, cytoplasmic	1.0352285	1.0093933	0.47606692	0.76844454	1.112562	0.71734047	1.1920335	1.397043	0.95825946	0.7677651	0.7659087	0.9244226	0.98588735			
Uncoupling protein 2	1.1124645	1.2896668	1.123948	0.90335	1.411488	0.95838073	0.904999	0.9193868	0.8503577	0.5432796	0.9193868	0.8503577	0.5432796	0.9193868	0.8503577	0.5432796
Phase-1 RCT-34	1.0247172	0.90861446	0.9989875	0.7863147	1.425088	0.8223332	0.8721589	1.034958	1.0784604	0.7062093	0.83522654	1.288131	2.1096717			
Phase-1 RCT-31	0.82938287	1.582298	0.89414537	0.6957013	1.0135882	1.0744969	1.3407635	1.2769335	0.9086099	1.0208481	2.2375655	2.2375655	2.2375655	2.2375655	2.2375655	2.2375655
Oxide D1	1.1164472	0.7386034	1.4771022	0.5383818	1.5486716	0.2550727	1.164803	0.793428	0.9202883	0.9202883	1.0504048	1.3928887	0.7686894	1.0504048	1.3928887	0.7686894
IgE binding protein	1.2354007	0.268712	1.2220968	1.383434	0.8553076	0.8256485	0.88453424	0.8028283	0.8920127	0.9546773	0.9654349	0.9654349	0.9654349	0.9654349	0.9654349	0.9654349
Zinc finger protein	0.8578426	0.83430934	1.0878099	0.9188789	0.9106594	0.9849559	1.1685404	0.90033305	0.854264	0.8333262	0.854264	0.8333262	0.854264	0.8333262	0.854264	0.8333262
Phase-1 RCT-138	0.92573506	1.0638621	1.2220968	1.383434	0.8553076	0.8256485	0.88453424	0.8028283	0.8920127	0.9546773	0.9654349	0.9654349	0.9654349	0.9654349	0.9654349	0.9654349
Alpha-tubulin	0.8302815	0.717927	0.91842175	0.81690395	1.5741191	1.2376714	1.2658547	1.02050318	1.2233934	1.0084456	1.0051487	1.0051487	1.0051487	1.0051487	1.0051487	1.0051487
Alpha-thymosin	0.8400812	1.4921767	0.81842175	0.81690395	1.5741191	1.2376714	1.2658547	1.02050318	1.2233934	1.0084456	1.0051487	1.0051487	1.0051487	1.0051487	1.0051487	1.0051487
Calpain 2	1.0820368	1.052788	0.7920702	0.6466316	0.9466316	0.9720702	1.052788	1.4588745	1.3084159	1.0476112	1.1445888	1.1445888	1.1445888	1.1445888	1.1445888	1.1445888
Phase-1 RCT-12	1.0820368	1.052788	0.7920702	0.6466316	0.9466316	0.9720702	1.052788	1.4588745	1.3084159	1.0476112	1.1445888	1.1445888	1.1445888	1.1445888	1.1445888	1.1445888
Cathepsin B	0.84119093	1.253539	0.9831283	0.88186204	1.1855339	0.9764587	0.9502208	1.3059382	0.9764587	0.9502208	1.3059382	0.9764587	0.9502208	1.3059382	0.9764587	0.9502208
Phase-1 RCT-24	1.1398975	1.1975793	0.86784704	0.8648196	1.1443762	0.9241459	0.8341504	0.76480169	0.8488769	0.8341504	0.76480169	0.8488769	0.8341504	0.76480169	0.8488769	0.8341504
Membrane-associated antigen ME491	1.0623997	0.8855518	1.1614159	1.1374	1.115397	0.9306477	1.0324886	0.9041084	1.0218906	0.9041084	1.0218906	0.9041084	1.0218906	0.9041084	1.0218906	0.9041084

Table 30

Phase-1 RCT-88	1.0540302	1.0231626	1.0812482	1.0751817	0.9742795	1.037108	0.90301213	1.0307157	1.0123672	1.0937538	0.85023785	0.918113
Cyclin G	1.2532041	0.760813	1.0311993	0.9900767	1.5535488	1.1315528	1.8564176	0.936377	1.036377	0.9167758	0.9701443	0.8977848
Hypoxanthine-guanine phosphoribosyltransferase	0.9802528	0.84232646	0.798868	0.8577602	1.4547586	0.94145805	0.86876514	1.046767	1.2005963	1.173632	0.9732474	0.835735
Tissue inhibitor of metalloproteinases-1	1.0744667	1.0057772	1.2033454	1.5195378	1.7240098	1.2276542	0.89968694	0.9107084	1.0060857	1.0843503	1.2628684	1.0127232
ID-1	0.8233485	0.7499212	0.9970687	1.04381285	1.1727318	0.9418848	1.018514	0.8000023	0.90817344	1.0195991	0.98592895	0.80978847
Ribosomal protein S9	0.9330949	1.3955247	0.8008379	0.8404257	1.3449265	1.410056	1.0602819	0.75981486	1.2888178	1.458815	0.8758875	0.30825344
Heme oxygenase	1.2070799	0.8551037	1.2530507	1.032837	0.9958706	0.8289228	1.0628218	0.9523256	1.008816	0.8406060	0.92286205	0.854371
Ribosomal protein S8	0.8573498	2.0813603	1.1953193	1.0681615	0.61524343	1.095412	1.0208149	1.0658484	1.0617156	1.018034	1.0325888	1.1578768
Ribosomal protein S17	0.8999066	1.9184402	1.0321016	1.0209662	0.8382872	1.0374516	0.983299	0.9635388	0.9806467	0.975534	1.020292	1.1258156
Nucleoside diphosphate kinase beta isoform	1.119488	1.0417342	1.7369604	0.8210776	0.8108011	0.93407625	0.867805	0.7812618	0.7508802	0.871265	0.8490565	0.84504455
Phase-1 RCT-121	1.041897	0.7225234	1.3368282	1.1104314	1.0499172	0.8637809	0.7096687	1.0731572	0.92032045	1.000848	1.09074	0.8514728
14-3-3 zeta	1.006812	0.7201351	0.9200957	0.900278	0.8912045	1.0303028	1.112764	1.158487	1.0054084	1.018145	1.000544	1.1405401
60S ribosomal protein L8 (alternate clone 1)	0.873324	1.5547072	1.464582	1.017876	0.8912045	1.0303028	1.112764	1.158487	1.0054084	1.018145	1.000544	1.1405401
Beta-tubulin, class I	1.1141939	1.4380772	0.8872885	0.9884317	1.0285627	1.033801	1.1811702	0.8480233	0.85741746	1.058823	1.0105604	0.7786593
Organic carbon transporter 3	0.7897837	1.2360339	1.0742307	1.0681566	1.1260866	1.1413148	1.1855589	0.8398094	0.8890583	0.8971785	0.7458988	1.0643868
Beta-actin	1.0513736	0.8041124	0.75533444	0.7546243	1.1618271	1.04089474	1.3621112	1.5519385	1.0635039	1.1265732	1.0643868	1.0734483
Cathepsin S	1.1021055	0.9787874	1.090808	1.0983486	1.0661284	0.8828356	1.1586075	1.1907812	0.8890583	0.8971785	0.7458988	1.0643868
Biliverdin reductase	1.1094318	0.81400805	1.0048004	1.1377785	1.6762749	1.1467558	1.2478143	0.9228338	1.3037747	1.381804	1.0594404	0.97643856
Phase-1 RCT-154	0.98103285	0.8040818	1.055397	1.1058584	1.1550189	1.0118535	1.1629112	0.9255705	1.0843228	0.82384017	1.0850054	0.89578895
Phase-1 RCT-293	1.0188287	1.33934	1.0748171	1.1238401	0.79315454	0.9584031	0.9753877	1.012319	1.0022143	0.99824693	1.1142173	1.142178
Annexin V	0.9688961	0.8520683	0.9704871	1.213216	1.3281613	0.9173401	0.9495528	0.9861434	1.0417882	0.9294087	1.1607822	0.8174758
Complement factor I (CFI)	0.8316524	1.5823393	1.0678145	1.0946413	0.9500461	1.1923654	1.1869881	1.2835167	1.2340344	1.1100818	1.2331743	1.3581369
Phase-1 RCT-276	0.7344874	1.81371	0.87010814	1.0083209	0.8084798	1.2528957	1.4249572	1.008484	1.4033075	1.2432508	1.3389863	1.272715
Tyrosine aminotransferase	0.81203496	1.8325017	0.8654351	0.580529	0.7323084	1.263634	1.5440086	1.8828937	1.2981122	1.3057829	1.2368178	1.8742124
Glutathione peroxidase	0.6886907	2.1973068	1.1576897	1.2254207	1.0257491	1.1557883	0.9488849	1.1810063	0.8988239	0.71286	0.92617074	1.240109
Histidine-rich glycoprotein	0.75602886	2.2952065	0.903202	0.603883	0.63876624	1.2712865	1.1781503	1.4182988	1.1954371	1.1834233	1.087462	1.4050097
Carbonic anhydrase III, sequence 2	0.72484225	2.1553045	0.89117014	0.6912016	0.6808881	1.2984146	1.1855788	1.4376353	1.1743715	1.1617099	1.2547633	1.1104081
Phase-1 RCT-42	0.8556971	1.464537	0.638216	0.8494544	0.8008252	1.1743715	1.1617099	1.2547633	1.1743715	1.1617099	1.2547633	1.1104081
Transitional endoplasmic reticulum ATPase	0.8473463	0.9245927	0.6517322	0.8963598	1.2180117	1.3296083	1.4296587	0.9158388	1.2043289	1.4392047	1.4635763	0.94548315
Phase-1 RCT-68	0.8448252	1.5192282	0.9475745	0.9380083	0.73118925	1.2516578	1.7297776	0.9704338	1.1471937	1.155932	1.0845363	1.0045143
Phase-1 RCT-286	0.8682084	1.5856495	1.0986495	1.4811057	0.7536325	1.2076798	1.1132437	1.2348603	1.1804221	0.9837831	1.0036533	0.94724137
Phase-1 RCT-161	1.22853	0.8480335	1.0548177	0.9885113	0.91440858	0.87293866	0.7738249	1.2348603	1.1804221	0.9837831	1.0036533	0.94724137
Glutathione S-transferase (theta-1)	0.725576	1.0784172	0.8807771	1.1614978	0.9622586	1.1447628	1.3846014	1.1876478	0.9556887	1.0801333	1.108382	1.2842436
Phase-1 RCT-168	0.8579966	1.022048	0.8818226	0.8543713	1.0255928	0.9884142	1.3314279	1.091761	1.2204013	1.1140236	1.3835763	1.0000577
Phase-1 RCT-182	0.76925725	1.0987351	0.8136285	1.0425428	0.9763019	1.0244274	1.0027688	1.0875828	1.2054689	1.1050578	1.0749513	1.153186
JNK1 stress activated protein kinase	0.6096006	1.0917792	1.2386584	0.9435091	0.7767964	1.217618	1.2807125	1.8769037	1.1874931	1.2887684	0.93430847	1.9044608
Phase-1 RCT-81	0.7867564	1.2823547	0.8362815	0.9299781	1.0568056	1.218669	1.2427287	1.2024243	1.2989204	1.0859071	1.2039735	1.3928008
Phase-1 RCT-33	0.9320778	1.1280868	1.0777398	0.9030384	0.91340304	0.91340304	0.91340304	0.91340304	0.91340304	0.91340304	0.91340304	0.91340304
Phase-1 RCT-178	1.121477	0.7581621	1.644044	0.9883416	1.4607775	1.9818085	0.8861756	1.0405354	0.8400354	0.8400354	0.8400354	0.8400354
Apolipoprotein CIII	0.8982792	1.0108827	1.2408908	0.9528816	1.2818281	1.093252	1.2348678	1.1810548	1.2675391	1.4012852	1.1493348	1.3985524
Phase-1 RCT-88	0.9890253	0.99433218	0.795604	0.883294	1.0174438	1.1537381	1.0156674	1.0895042	1.0646377	1.0463777	1.050598	1.2088352
NADH-cytochrome b5 reductase	0.8600883	1.2772808	0.8212825	0.8725542	1.1184317	1.3064586	1.2598651	1.3661387	1.1834386	0.99737938	1.170126	1.2181843
Alpha 1-inhibitor III	0.7434328	1.2595553	1.0017571	0.8876257	1.1098822	0.7058842	1.3661387	1.1834386	0.99737938	1.170126	1.2181843	1.2181843
Phase-1 RCT-223	0.8949451	1.3968143	1.1590326	0.98854183	0.9051749	0.9585473	1.4739169	1.0717282	0.9465927	0.9465927	0.9465927	0.9465927
Paraoxonase 1	0.82768065	1.2522312	0.946895	0.9551083	0.831981	1.02918	0.93884024	1.295761	1.1853142	1.2894782	1.1585777	1.0982813
Paraoxonase 1	0.82768065	1.2522312	0.946895	0.9551083	0.831981	1.02918	0.93884024	1.295761	1.1853142	1.2894782	1.1585777	1.0982813
Apolipoprotein C1	0.6731824	1.7300384	0.795972	0.6529711	0.5117786	1.2117387	1.2138997	1.4307657	1.3140316	1.0389233	1.2396885	1.9073311
Cytochrome P450 2C23	0.6708217	1.3827856	0.9084138	1.2304703	0.89273604	1.037053	1.1369281	1.3435662	0.88901053	1.017398	1.1358178	1.488157
Phase-1 RCT-227	0.828708	1.0237017	0.81193346	0.4496242	0.7718889	0.85642076	0.89533895	1.1793063	1.2624382	0.8183033	1.021913	1.2500123
Hepatic lipase	0.94913065	0.85059047	0.6505049	0.7477088	1.5341385	1.0731765	0.8938433	1.0582768	1.0603793	1.0000577	1.0000577	1.015515
Phase-1 RCT-164	0.90209764	1.1018918	1.0118589	1.0524917	0.7532137	1.2028285	1.1952517	0.8949438	1.2652526	1.3414037	1.270928	0.890294
Multidrug resistant protein-2	0.87689783	0.7488455	0.9655973	1.1954582	1.8992503	1.3727881	0.9021665	0.8568303	1.1612363	0.9378889	0.8302345	0.8297809
Insulin-like growth factor 1, exon 6	1.168411	0.63702947	1.221433	0.75357413	0.7265475	0.98630285	0.8865702	1.4880875	0.8542873	1.051881	0.99892255	1.0043168
N-hydroxy-2-acetylfluorene sulfotransferase (ST1C1)	1.077491	0.8508961	0.876423	0.6438901	0.9780842	0.90272737	0.9753758	0.8542873	1.051881	1.1289864	0.9856857	1.1377486
Dynamin-1 (D100)	0.8945248	1.2370943	1.1646252	0.9901801	0.8135103	0.89204437	1.0732712	0.94580476	1.0761161	0.9533131	0.9249783	1.1911267
DNA polymerase beta	1.0427028	1.4122742	0.80351406	0.8097806	1.1042771	1.0399185	1.1623557	1.0608837	1.0800873	1.1538923	1.1227584	1.1184354

Table 30

Phase-1 RCT-173	1.2300069	0.77643484	1.3245345	0.8327029	1.0487052	1.2551797	1.0867364	1.2446572	0.9793871	0.8890109
Ubiquitin conjugating enzyme (RAD 6 homologue)	0.84956324	1.4173315	0.98392504	0.9148318	1.0862191	1.3813927	0.8428346	1.2392	0.7433762	0.58495926
Ribosomal protein L13A	1.0633088	1.1194628	1.0266778	1.2409654	0.88074154	0.9997685	0.822238	0.987346	0.7688398	0.8528652
Phase-1 RCT-144	1.1100124	1.102073	0.9002266	0.82802125	1.061742	0.9865566	1.1457334	0.808529	0.8552174	0.8242386
C-Hra	0.88445395	1.1327003	1.1560602	1.1443124	0.9054654	0.874389	0.9840175	0.9901051	0.1059333	1.0753113
Vestibular monoamine transporter (VMAT)	1.2284213	1.4504734	1.247378	1.2061437	0.8901113	0.8314938	0.81856346	0.8640897	0.8013914	0.82529604
Phase-1 RCT-273	1.202186	0.7928652	1.0551035	1.1615938	1.0365554	0.866980174	0.81398025	0.8242768	0.8250504	0.87238553
Phase-1 RCT-230	1.3736684	0.72872865	1.0276912	1.1695052	0.9883319	0.75451815	0.7398067	0.7941886	0.7898856	0.8895195
Phase-1 RCT-74	1.5417248	0.8528915	1.0930036	1.3320521	1.16164	0.8103122	0.7205881	0.7953501	0.8211702	0.7070233
Phase-1 RCT-40	1.3521874	0.89176327	1.0406904	1.097558	0.9999903	0.8064458	0.72482543	0.70877314	0.76366016	0.81456175
Phase-1 RCT-158	1.1141398	0.78911938	1.007594	1.052878	1.1529331	1.0016933	0.8540833	0.9392424	0.8543009	0.8894106
Deoxyribosyl kinase	0.88734823	0.8989117	1.2802887	1.1763997	1.2893952	1.0670694	0.87990326	0.8624924	0.8665924	0.9293788
Inositol polyphosphate multikinase (Ipmlp)	1.2142767	0.96276027	0.9953627	1.1308321	0.80401635	0.82621396	0.9009819	0.79551614	0.8388442	0.87721894
Neuronal cell adhesion molecule (NCAM)	1.1676376	0.83934565	0.9741114	1.153528	1.1693034	0.7811069	0.86550896	0.6634262	0.74345434	0.8496230
Hepatocyte growth factor receptor	1.2774403	1.2138721	1.0650724	0.8581001	1.0555009	0.81013864	0.79307287	0.78289135	0.8550485	0.8846571
Empty	2.0026042	0.7417127	0.987758	1.2098912	1.6653881	0.8873052	0.7842097	0.8168031	0.7131155	0.8165692
Dopamine receptor D2	0.9532152	0.9653042	0.77687	0.95696	1.3457183	1.3024242	1.2719325	1.1501945	1.124368	1.0983256
Phase-1 RCT-51	1.0282768	0.81880176	1.1091812	1.120514	1.0432878	0.9655549	0.8592858	0.8043166	0.8545905	0.9275489
Four repeat ion channel	1.2250507	0.8616987	0.9965034	1.1316313	1.0792261	0.9330098	0.8425274	0.8371384	0.8411725	0.8532833
Adrenomedullin	1.8654828	0.8449052	1.3302706	1.288163	1.124455	0.75030506	0.7050119	0.65785694	0.61491884	0.72937195
Caveolin-3	1.2471005	0.7861882	1.0117682	1.1645716	1.1437287	0.83137286	0.7427624	0.87313784	0.75389	0.8043758
Phase-1 RCT-128	1.3336897	0.81389116	1.0508121	1.2130643	0.9758011	0.90441537	0.7824716	0.7268074	0.7313689	0.8047254
Phase-1 RCT-44	1.1808633	1.0453447	1.059846	1.1028468	0.9630078	1.015921	0.8510314	0.7635465	0.9738783	0.88952595
Sarcoplasmic reticulum calcium ATPase	1.046261	0.9798814	1.057402	0.869839	1.041428	1.1811609	0.7825512	1.0370559	0.8267623	0.9802034
Phase-1 RCT-76	1.2933957	0.7607653	0.990051	1.0297281	1.1606572	0.86952068	0.76501738	1.1467558	0.988472	0.990712
Phase-1 RCT-252	0.75440156	1.2824513	1.087198	1.1500213	0.8020839	1.1762687	1.142303	1.720381	1.1842117	1.2488378
Phase-1 RCT-151	1.0314409	0.8423304	0.9639745	1.1132532	1.0458986	1.0597308	1.0504254	1.021261	1.033225	1.1873386
Phase-1 RCT-70	1.7270778	0.8690026	0.9881667	1.0274487	1.0274487	0.8170957	0.8319388	0.82567405	0.8422783	0.87318724
25-hydroxyvitamin D3-1 alpha-hydroxylase	0.7838613	1.0428398	0.9572721	0.9473688	1.3425242	1.3200303	1.4157508	1.3452846	1.4331381	1.2453968
Phase-1 RCT-150	0.8641843	0.7762293	1.243615	1.0533031	1.8810082	0.8978958	0.8289859	0.83165075	0.7405817	0.8251729
Peroxisomal 3-ketoacyl-CoA thiolase 2	0.8583825	1.0251134	1.0665674	0.857573	1.1015387	1.1324556	1.2539284	1.0929134	1.0872755	1.130971
Phase-1 RCT-119	0.8409944	0.8571286	1.2753744	0.857573	1.1015387	1.2585018	1.0821086	1.2208773	1.1333553	1.0751671
Phase-1 RCT-146	1.3571917	0.8274188	1.1850945	1.1218938	1.1556522	1.0970815	0.8305411	0.82023754	0.88889753	0.8284166
Superoxide dismutase Mn	1.0023065	1.0416437	1.0696002	0.7879271	1.3368034	1.0512688	1.1107422	1.2420467	0.9483983	1.0755651
Phase-1 RCT-115	1.1609739	0.7206215	1.0507882	1.2108638	1.861642	1.0692649	1.0423611	1.1218072	1.04256	1.2916757
Alpha-1 microglobulin/bikunin precursor (Ambp)	0.78406954	1.4603968	0.7547584	0.8745368	0.917112	1.2383048	1.2688948	1.3904756	1.1791671	1.112113
Phase-1 RCT-18	1.1692878	0.9611789	0.98015314	1.0970784	0.8913752	0.9803511	0.76589424	0.7992077	0.7937298	0.8774108
Masspin	1.1018588	1.2353482	1.1704683	1.1116478	1.2140319	0.7879232	0.72579104	0.7187081	0.656611	0.73013246
Decorin	1.3723459	0.74480744	1.201024	1.2841392	1.2410264	0.83309114	0.7689572	0.6920671	0.76891845	0.8107136
Retinol X receptor alpha	1.0914011	0.68923825	0.8619828	0.9562518	1.53156	0.9895458	0.8370805	0.7708459	0.96862337	0.8830858
Cellular nucleic acid binding protein (CNPB)	0.910853	1.2214773	1.2959226	0.72608733	0.8783786	0.961794	1.0083484	0.9247548	1.0565889	0.9889828
NADPH cytochrome P450 oxidoreductase	1.1489644	0.875738	0.79449504	1.9041387	1.4203488	1.0990472	1.1156447	1.1808475	1.0215597	1.3827688
Malic enzyme	1.4304378	0.69925977	0.69565683	0.8940287	1.6886986	0.97846298	1.1406004	0.80115804	1.0519624	0.8575084
Caspase 1	1.0376418	0.72370017	1.1578059	1.2711588	1.7855904	0.9169884	0.8469395	0.7595478	0.8575084	0.92055786
Cystatin C	0.81283524	1.1215788	0.9010414	0.953244	0.8542857	1.1210093	1.1076054	1.4042165	1.1063808	0.8692882
p55CDC	1.3350735	0.85503834	0.9202584	1.0078651	1.302827	1.3501107	0.8625534	0.9495609	0.8198848	0.72503316
Poly(ADP-ribose) polymerase	1.050837	0.9702824	0.93273085	1.0987103	1.3425574	1.1760064	1.2670895	0.9271544	0.93842256	1.346182
Tissue plasminogen activator	1.0770012	0.8901863	0.8059819	0.9157889	0.8438018	1.11193	0.9019023	0.88883907	1.0018314	0.9364373
Multidrug resistant protein-1	0.8238588	0.8641516	1.1359741	1.3876598	1.2865359	0.9071633	0.7808962	0.968628	0.9863039	1.235138
Phase-1 RCT-207	1.0286163	0.7884164	1.1817889	0.99532233	1.1095212	0.9513911	0.9871835	0.7627828	0.9267828	0.9133348
Phase-1 RCT-181	0.85623306	1.065875	1.1851523	0.9302142	1.1105497	0.91115475	0.8922529	0.86288751	0.86288751	0.8922529
Gap junction membrane channel protein beta 1 (Gib1)	2.0006163	0.8841516	1.1528742	1.2151817	0.884026	0.67289044	1.0443312	0.88395538	0.8484884	0.7813862
Aquaporin-3 (AQP3)	1.1444134	0.9534005	0.8976315	1.0270131	0.96415765	0.8972055	0.81693765	1.0748208	0.9611254	1.0465581
Myelin basic protein	0.9464282	0.7530213	0.9174004	0.8355573	0.6589288	0.85747616	0.8742255	0.78468487	0.8409464	0.75823206
Calgranulin B3	1.0714388	0.83139568	1.0386832	0.85498444	1.0802188	0.9757901	1.0816836	0.9337286	0.87184083	1.0400078

Table 30

Phase-1 RCT-159	0.8287804	1.1273481	0.8525945	0.8657587	0.76670585	0.87100616	0.8812501	0.88831203	1.0131239	1.0127558	1.0474182	0.9220288	1.0800399
Probenazole activator 28 alpha	0.9028982	1.0465639	0.9844088	1.0277295	1.2256494	1.0502862	1.00738	1.2053181	1.2216734	1.1102302	1.208118	1.1395838	1.0903785
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 h: yes-necr, necrosis observed; yes-both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 26)													

Table 30

Table 30. Expression Data for 72 Hour Timepoint															
(1)															
Compound/Dose (2)	PBARB 20	PBARB 80	PBARB 80	PBARB 80	PBARB 80	PBARB 80	PBARB 80	PBARB 80	PBARB 80	PBARB 80	PBARB 80	PBARB 80	PBARB 80	PBARB 80	PBARB 80
Animal Number (3)	2629	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)															
Phase-1 RCT-107	1.2903292	0.9318629	0.88337725	1.1227789	1.03611755	0.83776566	1.1955937	0.94461066	0.7158433	0.82637364	1.1689981	1.1945151	2.641321		
Betaine homocysteine methyltransferase (BHMT)	3.9637373	1.4573135	1.1002183	2.431861	1.3200847	0.84044095	1.1407007	0.84044095	0.82814146	0.7155371	0.59487575	0.82998157	1.5356477		
Proliferating cell nuclear antigen gene	0.8373709	0.9234343	0.9080034	0.85197487	0.89647385	0.9832638	1.00896	1.020274	1.1330033	1.7326612	1.133122	1.2607806	0.95928654		
Cytochrome P450 2D18	1.0823835	1.0770162	1.1525858	1.0731335	0.7114122	0.6510719	0.658903	0.69778663	0.7799553	1.746005	1.5186393	2.2032201	2.5513594		
Cytochrome P450 2C11	0.8359874	0.97067076	1.0683271	0.81297153	1.1524122	0.70829148	1.1436024	1.1970403	0.2091826	0.92818874	0.9391282	1.3219451	0.9399312		
Phase-1 RCT-290	2.3765686	1.2950222	0.8346606	0.8162184	1.854224	0.70829148	1.1436024	1.1970403	0.2091826	0.92818874	0.9391282	1.3219451	0.9399312		
Phase-1 RCT-59	0.91548055	0.8664096	0.8676318	0.8576318	0.82131186	0.9079866	0.86503985	0.85119843	0.84515245	1.2018715	0.52944124	0.7951204	1.6226878		
Beta-actin, sequence 2	1.4097862	1.0162219	0.97377226	0.90136087	1.0122339	0.981077	0.83747244	1.1301882	0.85529374	1.0644183	0.82076544	0.90433755	1.1818012		
Phase-1 RCT-282	1.1873741	0.8832179	0.9482248	0.9488217	0.9595738	0.7979305	0.9422234	1.0790194	0.9375053	1.011346	0.9296608	0.9462437	0.9655870		
Pyruvate kinase, muscle	0.8975391	1.0104924	0.8992288	0.83407164	0.9410275	1.020891	0.95178634	0.83319753	0.88256875	1.0205708	1.091958	1.0738831	1.0974843		
Osteocalcin	1.0681022	1.020692	0.99112856	1.0095752	1.0243467	1.1038851	1.0288034	0.9500734	0.8434394	0.97104128	0.73965943	1.0156243	1.1085926		
Calgranulin B1	1.0118395	0.8789976	0.9243778	0.91695168	1.0130594	0.99404687	1.08233	0.643942	0.8885643	1.1163471	0.9807759	1.0627058	0.9938506		
Acidophorin All	1.0809634	0.7597417	0.8718754	0.8704185	1.1926595	1.4729188	1.3810918	0.60214114	0.6635146	1.1635549	0.8800998	0.89130265	1.3251402		
Conradin-32	1.1778136	0.8801528	0.8985967	0.9019131	0.96318835	0.87593216	0.8342309	1.4103534	1.0205939	0.79602754	1.1365269	0.8748613	1.1714206		
Phase-1 RCT-109	1.0263973	0.8244018	0.92561446	0.79597884	1.1872802	1.1042807	1.0190637	0.92697394	0.8441471	0.8831528	1.0371422	1.0303215	1.1016807		
Glycine methyltransferase	1.7579016	0.9720452	0.90897103	1.4945782	1.5294602	0.8367874	1.872547	0.9011123	0.9597125	0.7930324	1.3271161	1.23759	3.333004		
L-glutono-gamma-lactone oxidase	1.657958	1.0860576	1.008947	1.3140041	1.2353888	0.9407136	0.8366057	1.0898684	0.6849636	1.1239477	1.049394	0.9010423	1.4295007		
Phase-1 RCT-256	1.8579353	1.2232085	1.2071214	0.9208979	1.0644541	0.7034708	0.70476115	0.9881236	1.144252	0.46818883	1.013238	0.9082011	1.4550887		
Carbonic anhydrase III	1.2634404	1.6770509	1.2371214	0.9208979	1.0644541	0.7034708	0.70476115	0.9881236	1.144252	0.46818883	1.013238	0.9082011	1.4550887		
Phase-1 RCT-78	1.5177312	1.393867	1.200902	0.9628214	0.96931636	0.95405143	0.87623115	1.0807979	1.1315983	1.1033984	1.083137	1.2491162	1.3248735		
Uniferrin protein 2 precursor	0.9400884	1.1516211	1.0524501	1.2756629	1.3856211	1.2045159	1.4439021	1.0374899	0.8020839	0.5911643	0.5667692	0.4745937	0.8829346		
Insulin-like growth factor 1	1.4812555	1.105781	1.0251907	1.2005908	0.7862857	0.73993057	0.895098	1.554046	0.88643684	0.6375843	0.64252174	0.56074446	0.67383		
Aryl sulfotransferase	2.1868994	1.3299693	1.362566	1.8325524	1.3258157	0.9076817	1.0354532	0.98119148	0.7980717	0.60765046	0.6320163	0.7014889	0.798953		
Phase-1 RCT-185	1.4147478	1.5131245	1.3724619	1.1878554	0.7956421	0.7656421	1.0361671	1.1244238	0.9080793	0.6058197	0.76333684	0.87350024	0.85036557		
Stathmin	1.2154084	1.2362891	0.9628284	0.8697175	1.0348847	0.9930268	1.025707	1.2336713	0.89271927	0.1399818	0.8313568	0.98205155	1.1515704		
60S ribosomal protein L6	0.8706761	1.0515441	1.0744861	1.0233868	1.1322695	1.1411678	1.0983227	1.044822	0.9431763	0.968061	1.0022094	1.4786596	1.0329274		
Calpactin heavy chain	0.9987183	1.0200584	1.00913	0.9321313	1.0636147	0.9880707	1.0276369	0.7678096	0.85345435	1.4140733	1.0173007	1.2143031	0.9946806		
Collagen type II	0.88445165	0.9429533	0.87410814	0.78670865	1.463999	0.92348154	1.349897	0.76344144	0.82836087	1.580472	1.2148036	1.163408	1.0059894		
Phase-1 RCT-179	1.0375403	0.9665334	1.0143441	1.0839667	1.1870441	1.1313825	1.1192511	0.78741696	0.91554597	0.933717	0.8228633	0.9304763	1.008139		
Voltage-dependent anion channel 2 (Vdac2)	1.2807249	1.0950618	1.0731391	1.1032711	1.0539957	1.2049714	1.1618896	0.7220368	0.87877864	0.851603	0.7743031	1.0220453	1.1289216		
Phase-1 RCT-192	0.7512921	0.822525	1.0265126	0.8808383	1.2404513	1.2108684	1.191316	0.90805334	0.87818574	0.79200625	0.76988834	0.5695502	0.7328478		
Adenine nucleotide translocator 1	0.69519746	0.83341396	1.0005333	0.8818355	1.447226	1.191316	1.0551832	0.89018574	0.79200625	0.76988834	0.5695502	0.7328478	0.8672154		
Thymosin beta-10	0.7658071	0.8749503	0.8513818	0.8833719	1.4785045	1.0188871	1.1494175	0.89040896	0.6787622	0.82029636	0.630448	0.84340876	1.0648789		
High affinity IgE receptor gamma chain	1.1409408	0.95779854	1.0208466	0.87269145	1.132425	1.1602678	1.1379485	0.81689507	1.2744132	0.7075291	0.8302208	0.6757565	0.8078083		
IFCERlgamma	1.50335393	0.91300327	0.8772457	0.7291581	0.74205744	1.0207636	0.76055663	1.43216	1.0673985	0.9080726	1.089746	0.9382038	0.8460594		
Gamma-actin, cytoplasmic	0.83036725	0.8900656	0.8258673	0.81559755	1.1343237	1.0152855	1.0753398	0.767917	0.984815	1.477932	1.5711831	1.5689759	1.4106271		
Uncoupling protein 2	1.1486868	0.9601383	1.1301622	0.8768281	0.8556791	0.9822222	0.8630805	1.0027308	1.0380098	1.4017506	1.2869945	1.350977	1.2074572		
Phase-1 RCT-34	2.584681	1.275705	1.626162	1.7162187	0.8471023	1.0146394	0.78196594	0.40708035	0.92954034	1.8558177	0.8247479	1.550976	1.572398		
Phase-1 RCT-31	0.6669847	0.81449765	0.7899943	0.7458075	1.0734183	0.693113	1.1350865	1.0115763	0.10591018	0.517467	0.85485543	1.6550831	0.74278075		
Cyclin D1	0.951803	1.0220971	1.016634	0.7316075	1.0138836	1.1052861	1.1679251	0.9235202	0.8165437	1.1286193	1.3228652	1.391497	1.3165846		
IgE binding protein	0.8719644	0.8578004	1.0957803	0.89915246	1.2171284	1.0234778	1.0835189	1.0276921	0.8406398	1.0540591	0.8198645	0.9810711	1.1003344		
Zinc finger protein	1.354122	0.94231606	1.0777834	0.95835465	0.98959674	0.87409528	1.0646486	1.1286456	1.0029787	0.9583789	1.4318782	1.3891655	0.9758539		
Phase-1 RCT-138	0.765783	0.94065343	0.95059616	0.8416742	0.9287666	1.1379485	0.84635663	1.2368099	1.156592	1.02152932	1.2042308	1.0061581	0.9983583		
Alpha-tubulin	1.5536446	1.3135582	1.425532	1.3598168	1.0831113	0.8723897	1.182277	0.5086754	0.8360377	1.8331522	0.8432443	1.4808874	1.5061911		
Alpha-prothymosin	0.89539483	0.8275982	0.8533046	0.9140138	0.98965185	1.0690754	0.97915318	1.0812542	1.2384481	1.184758	1.2934586	1.1743277	1.473277		
Calpain 2	0.99370108	0.8164652	0.89727855	0.771499	0.9490077	0.7730046	0.81586193	0.9187654	1.1552283	0.9603658	1.2350024	1.0139291	1.16959		
Phase-1 RCT-12	1.2807448	1.3415164	1.0504866	1.2152315	1.1723552	0.95104273	1.0195686	0.62698613	0.7147421	1.3668863	0.9329855	1.16959	1.16959		
Cathepsin B	0.7897209	0.8274485	0.7786192	0.8744553	0.8889429	1.1844608	0.8938416	0.8938416	0.8445062	1.3786678	1.3072017	1.6398878	1.2235484		
Phase-1 RCT-24	0.89216695	0.8023412	0.8815501	0.84552674	1.2210663	1.2444118	1.2330344	0.9559927	1.0527531	0.9689167	1.3292792	1.4894618	1.4840889		
Melanoma-associated antigen ME481															

Table 30

Phase-1 RCT-68	1.023855	0.97703046	0.98441917	0.93379706	0.9155279	0.9601467	0.94255745	1.0279108	0.9339419	1.2339146	1.0209941	1.0609816	1.0468402
Cyclin G	1.588964	0.96051115	0.7323843	0.8265398	0.9232545	0.9759317	0.9759317	0.95023384	1.6005005	1.0202231	1.0936147	1.3180543	0.8693926
Hypoxanthine-guanine phosphoribosyltransferase	0.85499007	0.9122581	0.91750103	0.84749424	0.84304017	0.9179947	0.8586377	0.9635072	0.88280894	1.232058	1.0381074	1.2490537	1.2742615
Tissue inhibitor of metalloproteinases-1	0.8621651	1.0657438	0.91535914	0.8020584	1.172212	1.0664892	1.2145021	0.93812807	1.2243816	1.082937	1.0783108	1.0712314	0.9536068
ID-1	0.7628265	0.89917204	0.87607697	0.8247775	0.9106692	0.8393957	1.0766289	0.9816096	0.9456534	0.9488775	0.977872	1.0081637	0.86196077
Ribosomal protein S9	0.7762632	0.90118754	0.9506878	0.8976667	1.2393398	1.1423813	1.0753675	0.73510184	0.99546277	0.77336885	0.613882	0.6243242	0.6676485
Heme oxygenase	0.8536949	0.850268	0.86593306	0.8575552	0.89021635	1.4814275	1.0473125	1.1485048	1.6164286	2.148904	4.180992	3.4831421	2.883676
Ribosomal protein S8	1.1589929	1.06008	1.109894	1.081883	1.2314607	1.146944	0.9850563	1.0126342	1.085918	1.238239	1.3873304	1.2352511	1.380489
Ribosomal protein S17	0.8380409	0.8692522	1.0222528	1.0414035	1.118933	1.3038935	1.1545619	1	0.9253602	0.989139	0.9013101	0.92906976	0.9855127
Nucleoside diphosphate kinase beta isoform	0.8300374	0.9945509	1.0163077	0.8264258	0.8598526	1.0779305	0.94036126	0.6991579	0.7250622	0.9615906	0.69572705	0.7914571	0.8675094
Phase-1 RCT-121	0.7711295	0.7931974	0.7228872	1.042279	0.7228872	1.0291678	1.0885014	1.0739031	1.0239031	1.26616	1.2002255	1.20010427	1.0111315
14-3-3 zeta	1.0420884	0.9153761	1.0054821	0.87435687	1.0381672	1.0612805	1.02052517	1.3139108	1.3539484	0.8058788	1.3258454	1.0111315	1.0111315
60S ribosomal protein L8 (alternate clone 1)	1.2132628	1.0049261	1.1147923	1.0351973	0.8381678	1.0454322	1.0394444	1.008154	0.8804236	1.4320704	1.1507984	1.1481127	1.2421256
Beta-tubulin, class I	0.754402	0.8770018	0.83234716	0.8674054	0.78742373	1.0494907	0.8989831	0.7592704	0.8907533	1.146182	0.93052943	1.1771588	0.86925884
Beta-actin	0.80087734	1.0245893	1.0482943	0.9041853	1.0932629	1.1319125	1.0557235	1.0338323	0.8445524	0.8994529	0.89761623	0.99764156	1.0574248
Organic cation transporter 3	1.5282188	0.9682844	0.9474731	0.877177	0.49152657	0.5224849	0.55183053	0.7912191	0.6269113	0.926022	1.2423221	1.181272	1.6395159
Calpentin S	1.1796762	1.0986004	1.0154128	1.1252106	1.1197613	1.2823292	1.084383	1.1109642	1.224767	0.7571489	1.133551	0.75414324	1.0189323
Blivendin reductase	0.84347737	0.75498414	0.8072573	0.7829774	0.7883865	0.9880469	0.88016765	0.8117963	1.260568	1.422718	1.4536258	1.8290488	1.4038462
Phase-1 RCT-154	0.8900485	1.0172708	0.92075	0.9386597	1.0273411	1.060238	1.0521507	0.88449484	1.2545762	1.036023	1.0234758	0.8834881	0.87187415
Phase-1 RCT-283	0.9959736	1.506845	1.0875044	1.1438954	1.1349594	1.077701	1.0829529	0.8286207	0.84834763	0.9291803	1.3984697	1.2165359	1.3468031
Anchitin V	0.9792888	1.102159	0.9343134	0.9441067	0.90584797	1.011622	0.9387036	1.0877427	1.279711	0.898813	0.9501181	0.92138824	0.781976
Complement factor I (CFI)	1.2246398	1.4848774	1.205712	1.4355481	1.1354271	1.2874102	1.3407012	1.3712628	1.0614692	0.9457487	1.1769719	1.0739421	1.0554451
Phase-1 RCT-276	1.014451	1.1320891	1.0408127	1.0212985	1.1529163	1.091645	1.0297884	1.0143659	1.068785	0.70286834	0.6888951	0.67868394	0.7868394
Tyrosine aminotransferase	1.9331309	1.561077	0.7277142	0.952721	1.3418107	0.9307301	1.5890262	1.1775545	1.245201	0.65835553	0.5037633	0.55261797	0.5454088
Glutathione peroxidase	1.1284933	0.79732394	1.0311146	1.0938897	1.1305337	0.9818612	0.63412995	1.0400318	1.0763146	1.0421084	0.6414533	1.0784494	1.0751515
Histidine-rich glycoprotein	1.436405	1.5130742	1.4811334	1.5754831	1.2719065	0.8711188	0.7764263	1.0776744	1.189443	0.676587	0.8460198	0.56884846	0.7375761
Carbonic anhydrase III, sequence 2	1.5062171	1.4439722	1.4091774	1.581941	1.326062	0.66892764	0.7766924	0.6146514	1.1328215	0.9508186	0.77488005	0.5492838	0.7013056
Phase-1 RCT-42	1.3722289	1.266976	1.2816327	1.36408	1.2920524	1.077499	1.0398436	0.9494853	1.14273	0.886787	0.7487009	0.5831648	0.72108944
Transitional endoplasmic reticulum ATPase	0.8618608	1.0465201	0.9190549	1.0042983	0.9599978	0.9151325	0.8821053	1.3698071	1.0718891	0.943778	0.93510514	0.8725794	0.9531975
Phase-1 RCT-88	0.932835	1.290336	1.1339336	1.094377	1.1681031	1.0170735	1.0066181	0.9817846	1.055338	0.90908084	0.8138784	0.56772484	0.7712593
Phase-1 RCT-286	1.202564	0.86617894	0.9867122	0.9106881	0.80867203	0.69341975	0.89359725	1.0349288	0.9740557	1.0881542	1.1449795	1.2238936	1.2017641
Phase-1 RCT-161	1.8015393	0.86617894	0.9867122	0.9106881	0.80867203	0.69341975	0.89359725	1.0349288	0.9740557	1.0881542	1.1449795	1.2238936	1.2017641
Glutathione S-transferase theta-1	1.1625053	1.3391485	1.0718215	0.8596172	0.91802075	1.3319447	0.8124835	0.83207675	1.0388012	0.90537894	0.8135014	0.7703828	0.854183
Phase-1 RCT-168	1.0780007	0.94145614	0.93858755	1.096521	1.0243058	1.501132	0.8542614	1.5280278	0.9637863	1.369397	1.1251959	0.8536704	1.0089143
Phase-1 RCT-162	1.0870817	1.0337929	0.959292	1.0465792	1.2222788	0.8278417	0.8574304	1.2541449	0.98162115	0.6187415	0.9108834	0.76993173	0.82245595
JNK1 stress activated protein kinase	2.0389585	1.423925	1.107803	1.521755	1.0371921	1.0378548	1.0680213	1.1860031	0.9454952	0.586502	1.0175093	0.89707878	0.84196776
Phase-1 RCT-61	1.2844416	1.2128713	1.1107803	1.521755	1.0371921	0.9939237	1.014904	1.1904075	0.92948467	0.781147	0.7607056	0.7984006	0.9344303
Phase-1 RCT-33	1.053354	0.8871756	1.036781	0.9538014	1.0371921	1.46688	1.1180042	1.2728882	1.0480067	1.2180637	1.0483227	1.1996255	1.2127481
Phase-1 RCT-178	0.82152885	1.503841	0.828775	0.8569274	0.9870527	1.075884	1.2451419	0.8651697	1.2639325	0.9580603	1.4719202	1.3179762	1.3984086
Apollipoprotein CIII	1.1644843	1.1220093	1.084447	1.2403752	1.2434887	0.9340025	0.9585823	1.0266882	1.1810222	0.828471	0.8878457	0.87256684	0.8507345
Phase-1 RCT-48	1.150512	1.024894	1.0386411	0.8862378	0.9647739	0.9340025	0.9585823	1.0266882	0.8741447	0.8696716	0.84902514	0.8974336	0.9871268
NADH-cytochrome b5 reductase	1.3908559	1.1710305	0.9428720	1.1891199	1.008156	1.3491751	0.8314085	1.2940037	0.9213095	0.99145334	0.94905525	0.7727716	1.0168866
Alpha 1 - Inhibitor III	1.8065847	1.4327531	1.2688278	1.7884171	1.0287467	0.7930582	0.6462729	2.7363756	1.1555988	0.4381133	0.67342716	0.8107057	0.9552165
Phase-1 RCT-233	1.1508377	0.62414485	1.2839988	1.098965	1.4502586	1.1817439	1.2231036	1.1501624	1.2110398	1.0684083	1.0227556	0.8086395	0.8728984
Paraoxonase 1	1.394882	1.2847519	1.4326378	1.8130782	1.2258889	1.2462178	0.9988905	2.189427	1.2371587	0.5498328	0.8105775	0.5350543	0.64370173
Proteinase 1	1.8179574	1.3948231	1.2937711	1.80046	1.0305552	0.8381838	0.67990744	2.8712456	1.1700162	0.4186442	0.7307056	0.83854157	0.97661746
Proteinase 1	1.8179574	1.3948231	1.2937711	1.80046	1.0305552	0.8381838	0.67990744	2.8712456	1.1700162	0.4186442	0.7307056	0.83854157	0.97661746
Apolipoprotein C1	1.6201338	1.16589	1.2882545	1.1101732	1.438041	1.168039	0.9456079	0.836313	1.349748	0.5170944	0.5883837	0.87237847	0.6056793
Cytochrome P450 2C23	1.3457034	1.2638164	1.351868	1.5991495	1.5492147	1.1754739	1.2861823	1.1580917	0.9950424	1.0221078	0.7225109	0.903987	1.0673525
Phase-1 RCT-227	2.149488	1.7654392	1.868248	1.8628185	1.4214001	1.0657364	1.2696497	1.010458	1.1187497	1.158399	1.01967	1.2680349	1.3559884
Hepatic lipase	0.70765606	0.71878904	1.081393	1.1604581	1.009766	1.0861381	1.9233355	1.8588891	0.94554114	0.8284517	0.8407609	0.551327	0.6232082
Phase-1 RCT-184	0.8987256	0.9068482	0.8908896	1.0709443	1.009766	1.0861381	1.9233355	1.8588891	0.94554114	0.8284517	0.8407609	0.551327	0.6232082
Mitochondrial protein-2	0.80123246	0.6182293	0.8010594	1.0549647	0.8018903	0.6327317	0.6561704	0.4294457	1.1411386	0.7993289	0.6212537	0.982959	0.8654216
Insulin-like growth factor I, exon 6	1.5550039	1.1487107	0.8635723	1.2018175	0.694047	0.6833308	1.2020339	1.777601	0.8562722	0.9975596	1.36667	1.290768	1.6802658
N-hydroxy-2-acetylaminofluorene sulfoxidase (STIC1)	1.38185	1.2707722	1.0707722	1.0707722	0.9470569	0.6646127	1.0325959	0.9087156	0.5027634	0.5084251	0.5084251	0.5084251	0.8787214
Dynactin-1 (D100)	0.8416287	1.1046423	1.2052202	1.1579372	1.1558326	1.123796	1.0893624	0.9841706	1.1265239	0.9417111	1.1555559	1.0272273	1.0931338
DNA polymerase beta	1.2119709	1.2416079	1.0860884	1.1279123	1.0876877	1.1036317	1.011489	0.92123675	1.1651342	0.7108484	0.616541	0.5698436	0.5983545

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Phase-1 RCT-173	0.7762404	0.99963945	0.9918329	0.65948896	1.0625894	0.9149621	0.8574911	0.9295115	1.2112273	1.104633	1.059144	1.1023242	1.0016854
Ubiquitin conjugating enzyme (RAD 6 homologue)	0.82651987	0.85504246	0.9220697	0.94114316	1.223601	1.0746208	1.0378011	0.82266283	1.0073893	0.7316123	0.58694394	0.82407756	0.7091354
Ribosomal protein L13A	0.7589482	0.8542887	0.8520774	0.79446904	1.2659443	1.1776992	1.0510298	0.6873503	0.6946729	1.0488709	1.1773363	1.1972297	1.3807391
Phase-1 RCT-144	0.7314596	0.81755644	0.85143995	0.9917876	0.9947886	0.9452786	0.9452786	0.91772868	1.0409098	0.91772868	0.9054899	1.0146012	0.9340063
c-H-ras	1.0310866	1.1048945	0.8021543	0.8880672	0.84052076	0.8312449	0.9911115	1.1379538	0.9279264	1.2487466	0.9278365	0.932107	0.832107
Vesicular monoamine transporter (VMAT)	0.8518847	0.9187125	0.7710559	0.9996378	1.0356182	1.1495608	1.0356182	0.9566395	1.3102162	1.1114602	1.2901075	1.1293483	0.833483
Phase-1 RCT-273	0.8131816	0.81223774	0.8280425	0.9042289	1.0153139	1.0010017	1.0689605	0.9546981	0.9164756	1.0451697	1.1312445	0.9859355	0.9329176
Phase-1 RCT-230	0.74895337	0.7146993	0.76015824	0.8353424	0.97530085	0.8607096	0.8607096	0.93483186	1.3800096	1.1013381	1.4258934	1.3710818	1.0212104
Phase-1 RCT-74	0.7862145	0.7308989	0.8359204	0.77851175	0.9678464	0.9701628	1.1592219	1.1592219	0.940279	1.0745181	1.0745181	0.9680439	0.9107967
Phase-1 RCT-156	0.69935393	0.7180599	0.77824974	0.7337194	0.9580689	0.9770324	1.0587512	0.9719737	1.159165	1.0837914	1.1307307	1.1403553	0.9707967
Phase-1 RCT-156	0.7844329	0.8186687	0.86428356	0.99077924	1.0501882	0.9937059	1.069078	1.2071362	1.108907	1.0638472	1.1007924	1.025553	1.0283656
Deoxydiphosphate kinase (ppmk)	0.7265457	0.8500766	0.9492835	1.0996062	1.1288881	1.1178335	1.1448005	1.2484345	1.5935447	1.3532288	1.3833054	1.1352067	0.9397937
Inositol polyphosphate multikinase (IPMK)	0.8335188	0.6711952	0.812216	1.025624	0.90231586	1.0451534	1.0451534	0.8830123	1.166041	1.4077572	1.176518	1.1234499	0.90331274
Neuronal cell adhesion molecule (NCAM)	0.8192369	0.7328593	0.761929	0.7143813	0.81847397	0.9490726	0.99647975	0.82148095	0.82148095	1.3980935	1.1613463	1.2765524	1.1353329
Hepatocyte growth factor receptor	0.9464396	1.0340605	1.0028199	0.97149277	1.0106571	0.85122776	0.8233464	0.77138925	1.097508	0.9297382	0.8300232	0.8928489	0.76836294
Empty	0.7972846	0.66781904	0.80555546	0.773191	0.9828617	1.0256624	1.0879178	0.7642908	0.90102938	1.2280631	0.8624555	1.0328321	1.0284369
Dopamine receptor D2	1.1717018	1.094111	1.0023713	1.0605628	1.0210695	1.030002	0.969531	1.259128	0.821451	0.7844001	0.7107675	0.6995586	0.7783479
Phase-1 RCT-51	0.90324163	0.85845598	0.87128315	0.9318498	0.99381926	1.0273391	1.0660138	1.2694676	1.278198	0.8505877	0.8253908	0.8229889	0.7816467
Four repeat ion channel	0.8523694	0.784405	0.9134761	0.83863163	0.89568266	1.0097677	0.9678915	0.89250473	0.983471	0.7212574	0.8347888	0.595301	0.5277897
Adrenomedullin	0.5707395	0.6534417	0.60893404	0.6601207	1.0871254	1.0727403	1.2380942	0.933573	1.4500794	1.0553362	1.3920066	1.0149952	0.88934034
Caveolin-3	0.8784301	0.7405132	0.9305668	0.79893747	1.0822054	0.97046137	0.8901104	0.94521034	1.1538031	1.0467342	0.8811941	1.0755775	0.8268876
Phase-1 RCT-129	0.7216884	0.891255	0.7775085	0.70737497	0.9537605	0.9698032	1.0253513	0.8595472	0.96018773	0.904181	1.0768709	1.0671605	1.0086608
Phase-1 RCT-84	0.74531704	0.75211126	0.9820584	0.93318594	1.0168519	1.0675995	1.0722774	1.0794485	1.2816593	1.0528844	0.85675397	1.13294	1.004846
Sarcoplasmic reticulum calcium ATPase	1.0287248	1.1700073	1.0653737	0.8648458	0.96053046	0.9571158	1.006895	1.0390848	1.6863073	0.8430422	0.9856153	1.0861800	0.8620837
Phase-1 RCT-79	1.3028767	0.851862	0.8697784	0.9207616	1.0288797	1.1592389	0.96603674	1.2813902	1.029481	1.251728	1.315637	0.9928878	0.9928878
Phase-1 RCT-252	2.0133133	1.1652373	1.2234766	1.4942291	1.3074008	1.2799039	1.327359	0.9163893	1.2498894	1.0039749	1.1003749	1.2130235	1.1003749
Phase-1 RCT-151	0.995321	1.1551747	0.9349507	0.9604409	1.0297359	0.9543974	1.0068721	1.2900058	0.9736396	1.0279009	1.0326151	1.0117401	1.174315
Phase-1 RCT-70	0.7656943	0.8902651	0.8483225	0.7690506	0.9848842	0.9000983	1.0822538	1.2259948	0.7515235	0.8690172	1.0837224	0.9888946	1.179461
Phase-1 RCT-150	1.2374915	1.1751758	1.1750705	1.1691355	0.9857004	0.94509085	0.9167508	0.942024	1.253569	1.0528844	0.85675397	1.13294	1.004846
25-hydroxyvitamin D3-1 alpha-hydroxylase	0.7906169	0.81254848	0.9221025	0.77043295	0.9961705	1.0324934	1.01112	1.0424108	1.522431	1.0940301	1.0886085	1.3954577	0.822319
Phase-1 RCT-119	0.9746108	1.0298239	1.0242066	1.1476056	1.1218228	1.1823338	1.254989	1.3293836	0.9827153	1.3721027	0.9788378	1.163348	1.2832401
Peroxisomal 3-oxoacyl-CoA thiolase 2	1.0416864	1.0592822	1.0829824	1.0394281	0.8437558	0.9399003	0.7653528	1.016673	0.7800033	1.7307568	1.4512855	1.2765489	1.2854508
Phase-1 RCT-146	0.80490816	0.8354396	0.8801082	0.79114383	1.0326479	0.9935144	1.0360625	0.8923474	1.9554602	1.1734262	1.0124935	1.3903377	1.0022497
Superoxide dismutase Mn	1.2801382	1.3695304	1.3555977	1.1763848	1.0385705	0.8376134	0.9670233	0.7837278	0.7987468	1.1081576	0.76120645	0.9786952	1.1276727
Phase-1 RCT-115	1.1915102	0.8410538	0.88647	0.7879575	0.87592884	0.90307033	0.9541503	0.75418587	0.9538415	1.391122	1.3146718	1.580087	1.1535305
Alpha-1 microglobulin/bikunin precursor (Ambp)	1.3774635	1.2516892	1.2349813	1.3297697	1.1395697	0.9529617	1.1076173	1.2322185	0.90777644	0.7694507	0.720579	0.7951389	0.9439417
Phase-1 RCT-18	0.8220249	0.87434715	1.046257	0.89838818	0.95298806	1.0036584	1.0189847	1.1100521	0.8910075	0.980388	0.9884244	0.9972533	1.1789563
Maspin	0.6968923	0.7317828	0.7641593	0.9178989	0.97072333	1.0238215	1.1232387	1.1348431	1.3406206	1.18862	1.1832047	0.9247294	0.754291
Decorin	0.660505	0.7712029	0.789113	0.76916015	0.9849084	1.0033709	1.0458151	1.0402247	1.312553	1.2122358	1.332317	1.2740961	1.0270649
Retinoid X receptor alpha	0.7112421	0.7304942	0.84621376	0.7131659	0.830077	0.87705624	0.8598817	0.8205227	1.2084072	1.0935203	1.0425117	1.1005548	0.89538294
Cellular nucleic acid binding protein (CNBP)	0.84545597	1.0092078	1.1008208	1.0470184	0.8512638	0.8428453	0.89569235	1.3132309	1.1756398	0.7509708	1.0203528	0.91549768	1.0128628
NADPH cytochrome P450 oxidoreductase	1.1493329	1.0152721	0.9448128	0.73925378	0.7581552	0.850814	0.8988152	0.82880343	0.94281307	1.8667854	1.2272267	1.8059307	1.1584857
Malic enzyme	0.75292706	0.7161185	0.8130188	0.8071677	0.8027768	2.2406094	0.896699	1.2241528	1.2251814	0.850278	0.9332063	1.1041304	0.96283807
Cystatin C	0.73607665	0.8758698	0.9522494	0.7750774	0.87788385	1.006391	1.0884842	1.0207813	1.6244497	1.1240898	1.0100173	1.2985222	0.84623865
Phase-1 RCT-207	0.73549545	1.1891092	1.0034987	0.79962296	0.98242458	1.0494255	0.8971332	0.89628535	1.2283502	0.8940858	0.80875427	0.88614464	0.9087757
Poly(ADP-ribose) polymerase	0.81474173	1.0504817	0.90737873	0.8445983	0.94171538	0.9444118	0.87032235	0.89707813	1.1338184	0.99027973	0.94517374	0.9628401	0.85115886
Tissue plasminogen activator	0.9198896	0.9471833	1.048176	1.099658	0.963774	0.94955945	0.96014086	0.963293	0.7167196	1.1304864	0.8114285	0.9121864	0.81769284
Mitochondrial protein-1	0.7047332	0.8360781	1.0028583	0.81047344	0.8603245	0.83470256	0.7430389	1.0733379	1.2291088	1.3661746	1.3389136	1.3389136	1.0888814
Phase-1 RCT-207	0.82847365	0.96471983	0.9595952	0.8372601	0.9713334	0.95651635	0.9677216	0.9684756	1.0366519	1.1014918	1.0934129	1.2980397	1.0815156
Phase-1 RCT-181	0.9112537	0.9037513	0.90312463	1.016117	1.0638723	0.84185567	1.0439256	1.0898425	0.9062574	0.8089707	0.6443517	0.77588856	0.77588856
Gap junction membrane channel protein beta 1 (Gjb1)	1.2486413	0.5707518	0.7653135	0.61647993	0.8716888	0.85918306	1.6413105	1.5350022	0.6861933	0.9155888	1.165001	0.8603169	1.1162343
Aquaporin-3 (AQP3)	0.81872905	0.78134614	0.9689041	0.969841	0.989841	0.989841	0.989841	0.989841	0.989841	0.989841	0.989841	0.989841	0.989841
Myelin basic protein	0.7648559	0.80887328	0.9089948	0.7626616	0.6950535	0.6331081	0.54077116	1.1248947	0.9697846	0.91224706	0.9896626	1.043417	1.1976956
Calgranulin B3	0.8087254	1.0142208	0.9103024	0.86890373	0.86092105	0.98386747	0.9552508	1.0926272	1.1859889	1.2281487	1.1143667	1.2653327	1.0469623

Table 30

Phase-1 RCT-156	0.8726671	0.87814736	1.2154782	0.8523893	0.65108424	0.8845373	0.7101352	1.5183182	0.8132113	0.81283817	0.91389316	0.7885027	0.9890437
Protease activator 28 alpha	1.1990241	1.3711619	1.1556495	1.0894928	0.92427798	0.9444918	0.98398617	0.8069977	0.87601148	0.86841455	0.89600354	0.8976112	0.89565407
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 h: yes=incr, necrosis observed; yes=both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 26)													

Table 30

Table 30. Expression Data for 72 Hour Timepoint															
(1)															
Compound/Dose (2)	PUR 150	PUR 150	PUR 150	PUR 150	PUR 150	PUR 150	PUR 150	PUR 150	PUR 150	PUR 150	PUR 150	PUR 150	PUR 150	PUR 150	PUR 150
Animal Number (3)	37	38	39	27	28	29	29	29	29	29	29	29	29	29	29
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)															
Phase-1 RCT-107	0.82606524	1.0469344	1.4866251	1.0183531	1.0686818	0.871295	0.80836776	0.9578157	0.95735437	0.95769568	0.93208534	1.1492205	1.1298818		
Besitine homocysteine methyltransferase (BHMT)	1.0188315	0.7617213	0.708125	2.3014543	1.7721671	1.1815759	1.2339339	0.81978336	0.80164576	1.3390569	1.2377684	0.91751605	1.3018326		
Proinflammatory nuclear antigen gene	1.0127649	1.0709391	1.1172295	0.75602895	0.8016167	1.0270137	0.9196578	1.025624	1.0174639	0.93651044	0.95236063	0.8949771	0.86525834		
Cytochrome P450 2D18	1.4872073	1.4803327	1.4803327	1.4803327	1.4803327	1.4803327	1.4803327	1.4803327	1.4803327	1.4803327	1.4803327	1.4803327	1.4803327		
Cytochrome P450 2C11	1.0710449	1.1291597	1.0730598	0.9873684	1.1497268	1.4182683	0.8903957	0.9845202	0.8413274	0.96674653	0.9851208	0.99340373	0.7383272		
Phase-1 RCT-280	1.0589684	0.7378559	0.7071315	2.083369	1.6481699	1.1628311	1.1423194	0.83194727	0.83194727	1.2979568	1.2979568	0.8959195	1.0505523		
Phase-1 RCT-280	0.99113965	0.8806128	0.9478211	0.8928631	0.8928631	0.8928631	0.8928631	0.8928631	0.8928631	0.8928631	0.8928631	0.8928631	0.8928631		
Phase-1 RCT-280	0.8398216	0.8630678	0.7455126	0.9399884	1.127659	0.97738147	0.8195032	0.8195032	0.8195032	1.1177998	1.0874853	0.94747853	0.851393		
Beta-actin, sequence 2	0.87100514	0.9058021	0.9483326	0.8976203	0.8776519	0.91828807	1.0347557	0.9685224	0.961728	1.0376343	1.044665	0.903387	1.0319701		
Phase-1 RCT-282	1.2150221	0.9866162	1.1319643	1.2059336	0.9923154	0.98472713	0.985848	1.0054578	1.048399	1.022168	0.9787821	1.0321975	1.1552222		
Pyruvate kinase, muscle	1.1118499	1.0224291	1.0411617	1.1582088	1.2378268	1.0670835	0.97796085	1.0351161	0.9659047	0.97124	1.0061378	0.92866345	1.0490184		
Calreticulin	1.0218662	1.0522953	0.9416423	1.0303664	1.1263247	1.1265479	1.1635185	0.88086176	1.0357441	1.0239049	0.9990471	0.9877148	1.1626978		
Calreticulin B1	0.6428627	0.60363394	0.6100757	0.8469037	0.8878629	0.7727451	1.0495594	1.0148792	0.95653737	1.1172696	1.2497916	1.031308	0.9210587		
Adiponectin	0.8336243	1.0437358	0.8329732	1.14786	1.2016673	1.0821118	1.3713683	0.9511127	1.438806	1.3401634	0.97025965	1.3100522	1.3098378		
Conexin-32	1.3213768	1.2061331	1.3474108	1.1547353	1.2051399	1.2816891	1.180122	0.9772245	1.024436	0.9627489	0.9864537	1.2483404	1.009289		
Phase-1 RCT-109	0.8900344	1.1263224	0.75005355	1.1337544	1.1875312	0.8234666	0.9241019	0.9406163	1.0522039	0.9258677	0.92601645	0.7418841	0.9827966		
Glycine methyltransferase	0.9408065	0.8791272	0.80249856	1.3678078	1.218939	1.2436156	0.8460549	0.7092164	0.79597428	1.2117995	0.930446	0.7418841	0.9827966		
L-glutono-gamma-lactone oxidase	1.0628664	1.114342	0.8941475	1.474795	1.3814731	1.0318457	1.0204657	0.8875347	1.238464	0.54866506	0.96682725	0.92338425	1.3758851		
Phase-1 RCT-258	2.2843623	2.4452744	1.7625593	1.8758987	3.413618	2.0260284	1.927809	1.039257	1.238464	0.54866506	0.96682725	0.92338425	1.3758851		
Carbonic anhydrase II	0.77107835	1.0635295	0.7660577	0.9534394	1.200843	1.0140271	1.0554497	1.0257162	0.9459598	0.81942765	1.0923178	0.965971	1.0730569		
Phase-1 RCT-78	0.8277828	0.9301874	0.74231625	1.164835	0.713597	0.9010187	0.90001583	0.96078	0.8485247	0.55734795	0.8117028	0.71557726	0.87205374		
Urokinase 2 precursor	0.57259303	0.4923338	0.6398749	0.891691	0.830026	0.8981088	1.1859654	1.1136804	1.1508737	0.9071568	0.8528558	0.8150179	0.82728334		
Insulin-like growth factor 1	1.0694839	1.084239	0.947343	1.1390964	1.208268	2.18831	1.0275662	0.9656668	0.9705785	1.2772463	1.0442889	1.1849828	1.081872		
Calpain I heavy chain	0.95716524	0.9560583	1.1351736	0.64648527	0.8628525	0.8683935	1.0091171	0.9705526	0.8733598	1.145421	1.0591134	1.099322	1.0801872		
Calpain type II	1.1540234	1.0219029	1.1934465	0.98084978	0.8295923	1.0237348	0.8642554	1.03769	0.833944	0.894759	0.9816111	1.124415	1.0135547		
Phase-1 RCT-179	1.336384	1.3447627	1.369468	1.3635162	1.3280164	1.265125	1.2895762	1.1234397	1.038579	1.0071128	0.982767	1.167892	1.0922236		
Voltage-dependent anion channel 2 (Vdac2)	1.0789228	0.9116112	0.8989553	1.0384403	0.9716664	0.8828428	0.8807894	1.0060437	0.85205925	0.771831	0.9966442	1.0022708	0.9818265		
Phase-1 RCT-192	1.1308182	0.9392905	1.1067758	0.6415393	0.7013545	0.8657838	0.85152906	1.0314018	0.9750768	0.8652854	1.110091	1.0538759	0.91876293		
Adenine nucleotide translocator 1	1.2908969	0.93176544	1.2107594	1.2634848	1.2218758	1.0167028	1.1195964	0.9502827	0.980432	1.0707306	1.0774904	1.2270372	0.9855062		
Thymosin beta-10	0.83333817	0.8866077	0.6593808	0.8469642	0.8610163	1.0731874	0.8931165	0.9024923	0.8374555	0.8483114	0.891818	0.866505	1.0762897		
High affinity IgE receptor gamma chain (FcεR1gamma)	0.96587765	0.9414924	0.84759994	1.3552794	1.0763812	0.8965104	0.74799784	0.8480862	1.4190978	0.67799025	0.7518075	0.89328472	1.4542066		
Gamma-actin, cytoplasmic	1.2764351	0.88748328	1.2237755	1.2437594	1.1540362	1.1482759	1.04138	0.9403235	1.0517151	1.0543463	0.9991604	1.110257	1.0614508		
Uncoupling protein 2	1.2417206	1.2332436	1.2934813	1.583206	1.4752223	1.2241608	0.8599011	0.9806455	1.06712	1.0649211	0.95978953	0.96284646	1.0580724		
Phase-1 RCT-34	0.8534578	0.6572805	0.7497885	1.182871	1.0598985	0.833817	1.0721471	1.0812595	1.0247897	0.8933294	1.055183	1.0134283	1.4864602		
Cyclin D1	1.8311885	1.1043888	1.5152342	0.876438	0.77316135	1.1270787	0.82188344	0.9882389	0.9820915	0.8375268	0.89825185	0.8412208	0.7284445		
IgE binding protein	0.92912054	0.814232	0.7649192	1.0906909	1.2609106	1.0278891	0.9534714	0.9102278	0.9549304	0.96782484	0.9898303	0.9289597	0.96658045		
Zinc finger protein	0.8214053	0.7578651	0.8787953	0.6431108	0.6004228	0.81589943	1.0059078	1.0487918	1.057873	0.933363	1.0729427	1.0280254	0.9588813		
Phase-1 RCT-138	1.0134463	1.0704437	1.0406088	1.0207037	1.0620687	1.0877975	1.1690032	0.895926	0.9597888	0.9841272	0.9590592	0.9556888	1.2377193		
Alpha-tubulin	1.2002424	0.9943005	1.1846084	0.7300552	0.7783041	1.2688655	0.9885341	0.9461383	1.0416632	1.016886	1.0189538	1.1423062	1.0472834		
Alpha-tubulin	0.6833532	0.6320405	0.52345705	0.82139025	1.0548732	0.8880038	1.0551316	1.0957849	0.8939535	1.008643	1.1679872	1.131417	1.2271328		
Calpain 2	1.0338526	0.97068645	1.208864	1.180814	1.2147379	1.189331	0.8417757	1.0243604	0.85394133	0.833828	1.0178577	0.97609895	1.086472		
Phase-1 RCT-12	1.3253886	1.2130663	1.2865112	1.546273	1.1282238	1.252319	1.0215988	0.85318414	1.005791	1.2418811	0.86730117	1.1273302	1.4542066		
Cathepsin B	0.95891699	1.1106091	1.1249119	1.2499205	1.0104251	1.0691932	1.0691932	1.0691932	1.0691932	1.0691932	1.0691932	1.0691932	1.0691932		
Phase-1 RCT-24	0.88140116	1.0813488	1.0550641	0.9016449	0.8457044	0.8871031	0.8837753	0.8831902	0.8614423	1.183957	0.865007	1.1743592	1.2509942		
Melanoma-associated antigen ME491	0.86076155	0.99045205	0.987305	0.9949681	1.1209311	1.1097815	0.7617388	1.0916528	0.92862303	0.9059778	0.97502893	1.0864704	1.0478285		

Table 30

Phase-1 RCT-68	1.0182983	1.1531304	1.0504341	1.0837033	1.1440827	1.1570332	1.0484443	0.9503951	1.1161436	0.9828708	1.0767516	0.9766212
Oxyl G	1.1109853	1.1525946	1.2580376	0.7066746	0.7777708	0.96880105	1.0416487	1.0122622	0.9655352	0.99748284	1.0105475	0.9127418
Hypoxanthine-guanine phosphoribosyltransferase	1.0240201	0.8975225	1.0326846	1.3370632	1.3403425	1.2674739	1.0147275	0.98760106	1.1663437	0.98706457	1.2400029	1.0825863
Tissue inhibitor of metalloproteinases-1	1.1330237	1.1369479	1.2830403	0.9020662	1.1033915	1.1391105	1.0206884	1.1473937	1.0225659	1.0104771	1.0302728	0.9084363
ID-1	1.2615533	1.3146147	1.3827803	0.73996468	0.8591573	0.95263765	0.9439953	1.3034893	1.018749	1.0333211	1.1707402	1.0857637
Ribosomal protein S9	1.2088898	1.1240804	1.1093388	0.94009304	0.8922189	1.1099907	1.131252	1.1284783	0.9224803	1.0465045	1.23451	0.93231
Heme oxygenase	0.9446513	1.0051127	1.0552005	0.9218639	0.7837043	0.8728144	1.0654654	1.0067264	0.9958893	1.2546574	1.0266395	1.0823162
Ribosomal protein S8	1.148	1.0036935	1.2127005	1.307402	1.4015243	1.0862655	1.077543	1.1383661	0.9620263	0.788013	0.9208684	0.9730624
Ribosomal protein S17	1.4084346	1.3080831	1.4854932	1.5292725	1.5909503	1.1476251	0.9500358	1.1023302	0.7805191	0.8830048	0.9391846	0.9728684
Nucleoside diphosphate kinase beta isoform	1.08877	1.0780161	1.4567969	1.0609847	1.2674762	1.1306401	1.0488572	1.120688	1.0808212	1.0572037	1.0192681	1.020416
Phase-1 RCT-121	0.9468504	0.78598624	0.9428607	0.6478708	0.6427892	0.7826552	0.97806894	1.1723488	0.9868847	1.0018874	0.9246027	0.9573392
14-3-3 zeta	1.0731208	0.97356096	1.1013937	0.8238129	0.6124819	0.9050917	1.0582286	0.9791054	1.3805898	1.075881	1.3352981	1.1375138
60S ribosomal protein L6 (alternate clone 1)	0.8433927	0.9164012	0.83221555	1.1919409	1.365087	1.1216858	1.020086	0.9438628	0.930418	1.0100557	1.0397874	1.0488125
Beta-tubulin, class I	1.4278208	1.26129	1.366597	1.2361809	1.2438154	1.3083246	0.8371563	0.8781301	0.86864424	1.143123	0.802021	1.4117149
Organic cation transporter 3	1.2671131	1.0252182	1.3371708	1.2080355	1.2020062	1.127458	1.0408392	1.0527525	0.9585852	0.85914284	1.035623	1.0078192
Beta-actin	1.0112054	0.9006941	1.0306688	0.9115635	0.7283019	0.7283019	1.019065	0.90540775	0.9500276	0.8221959	1.2349494	1.455564
Cathepsin S	0.947246	0.93722518	1.1494035	0.8809863	0.8732019	0.9738257	0.7689259	0.9065604	0.87188895	0.83938354	0.99831605	0.8289139
Bilirubin reductase	1.1563157	1.1467459	1.3056004	0.80687087	0.8937783	0.9783118	0.8658123	0.9735321	0.8959327	1.080894	1.0101516	1.0917468
Phase-1 RCT-154	0.9728951	0.7807384	0.96942425	0.87063164	0.88032573	0.9121558	0.9368923	0.96889405	0.8993308	1.0889157	1.073549	1.0663593
Phase-1 RCT-263	1.4789972	1.3402593	1.7807384	1.5024742	1.198498	1.2003381	1.0586509	0.96524817	0.928076	0.89586705	0.9677034	0.9735542
Armadin V	1.3679475	1.1458998	1.2141554	0.995727	0.8814941	1.092444	0.9863524	0.9405325	1.098387	0.91897255	0.8559153	1.3144982
Complement factor I (CFI)	1.5084509	1.4866849	1.5591593	1.5344905	1.2214165	1.272267	1.1684926	1.2780028	0.8628168	1.1209046	1.0972278	1.2067835
Phase-1 RCT-276	1.258863	1.3388242	1.1032346	1.2308973	1.371829	1.1828854	1.0139815	1.0655071	0.9557123	1.1553407	1.0342854	0.9688773
Tyrosine aminotransferase	1.6940747	1.3450538	1.8039978	1.8554868	1.8710324	1.5839778	1.1335582	0.88458223	0.6312726	0.71445006	0.86474824	0.7747487
Glutathione peroxidase	1.165246	1.284209	1.1041045	1.8379184	1.2842816	0.9947592	1.1804168	1.1632307	1.3581073	1.1079212	1.1392188	1.1079737
Histidine-rich glycoprotein	0.86695415	1.0760732	0.9634391	0.8015338	0.945171	1.0754064	0.7841866	0.9653222	0.7673864	1.0010898	1.0145997	1.0662149
Carbonic anhydrase III, sequence 2	0.94871867	1.1358813	0.9878989	0.7892258	1.0576476	1.0241748	0.7328026	0.90112	0.7243575	1.0036691	0.913876	1.4003873
Phase-1 RCT-92	0.93248286	1.0825783	1.0478686	0.8359088	1.0203376	1.0037513	0.8070049	0.9045916	0.7869254	0.9697037	0.8235374	0.9124133
Transitional endoplasmic reticulum ATPase	0.9800054	0.9206598	0.9848936	0.81796205	0.8074789	0.9782195	0.9087239	0.9737772	1.1055425	1.1183365	0.8987766	1.1629739
Phase-1 RCT-88	0.94809365	0.9975287	0.9878795	0.9533668	0.9533668	0.9532985	0.81155095	0.80444455	1.0235037	0.98286785	1.0335037	1.089173
Phase-1 RCT-286	1.2837338	1.2482022	1.2287338	1.5568222	1.3193245	1.014712	1.3793734	1.016828	1.2748151	1.0527022	1.1184042	1.2117409
Phase-1 RCT-161	1.3567955	0.9305165	0.88211955	0.997927	0.9084759	1.000767	1.0634566	0.9772656	1.0609033	0.7762836	0.9539888	0.9378756
Glutathione S-transferase theta-1	1.0444516	1.0778705	1.0022807	0.9238474	1.297035	1.1155844	1.0189678	1.3282545	1.5281242	0.8726201	1.1257451	1.431577
Phase-1 RCT-168	0.99113303	1.08544	1.0152838	0.805712	1.1933314	1.0186944	1.0044992	1.044726	0.98784035	1.1242137	1.0821414	1.2620863
Phase-1 RCT-182	1.0029398	1.3862813	0.9182143	1.3280039	1.2973963	1.329453	0.9510216	1.028935	0.862458	0.78132924	0.93811333	0.688762
JNK1 stress activated protein kinase	0.93417513	0.8398974	0.81329955	1.0492048	1.3084962	0.9194116	0.8284442	0.7118857	0.92265433	0.89485736	1.0665097	1.120175
Phase-1 RCT-81	1.352215	1.4783887	1.4186884	1.5809662	1.7599847	1.441407	1.0881356	1.0988834	0.92265433	0.89485736	1.0665097	1.120175
Phase-1 RCT-33	0.88269633	0.91677034	0.9877515	1.0638077	1.0900901	0.9917615	1.1144601	0.70812476	0.8537341	0.95483	0.9098275	1.0404282
Phase-1 RCT-178	0.7967309	0.7744428	0.88385403	0.8534157	0.8959884	0.85655858	0.9521902	0.95625633	0.7878282	1.2005777	1.1395835	0.90304726
Apolipoprotein CIII	0.878228	0.7257895	0.888597	1.001025	1.1205373	0.90652484	1.0183423	0.8875141	1.0616973	1.1791219	1.1409535	0.877502
Phase-1 RCT-88	0.93455896	1.1274976	0.8769124	1.2351733	1.3398191	1.1483765	0.94738075	0.96944064	0.85581733	1.0118723	1.072027	0.9325438
NADH-cytochrome b5 reductase	0.9083253	0.93069085	0.93958806	0.9852288	1.1204257	0.9786559	1.0730407	0.918919	0.85911033	1.0851384	0.882544	0.76511693
Alpha 1 - inhibitor III	0.48611453	0.45402836	0.5105185	0.8197227	0.74047023	0.89808303	0.8187064	0.9305497	1.3941851	0.87840058	1.0005509	1.0305763
Phase-1 RCT-233	1.0491097	1.0106066	0.8248857	0.8759333	1.04777	1.0289896	0.89938487	0.9583673	1.1401753	1.071729	1.0693347	1.2862923
Paraoxonase 1	0.7415383	0.765952	0.90241164	0.9667567	1.022633	0.82139456	0.9065319	0.93758804	1.080976	0.7414972	0.8478844	0.7880818
Prasadin-1	0.48300534	0.43995678	0.49460426	0.8171002	0.7293739	0.8733891	0.85684085	1.3601305	1.3173056	0.923374	1.0545816	1.052121
Apolipoprotein C1	0.788436	0.87713295	0.5511113	0.83334655	0.8187776	1.010477	1.0345108	1.002847	0.8613769	0.8050707	0.7016537	0.8139734
Cytochrome P450 2C23	1.0617442	0.7065978	0.8377543	1.1686864	0.8273016	0.81724846	1.0420182	1.0558882	0.87483007	1.0480505	0.8232769	1.0558592
Phase-1 RCT-227	0.704148	1.1398218	0.7739275	0.9018074	1.4272811	1.01869	1.092621	1.0803473	0.90694784	0.6997378	1.0906879	1.1952057
Hepatic lipase	0.8616926	0.8348491	0.7474976	0.745906	0.7498647	0.7513719	0.7513719	0.844881	1.2677885	1.017495	1.0285478	0.91974604
Phase-1 RCT-164	1.0474497	0.8834072	0.9054827	0.91488327	0.88357593	0.99881157	1.0511123	1.0485944	1.077022	0.97295475	1.248504	1.2253366
Multidrug resistant protein-2	1.1651609	1.2226619	1.1739436	0.8518618	0.7211483	1.057969	0.9821131	1.0394594	1.0804275	1.067535	0.9736326	0.8494586
Insulin-like growth factor 1, exon 6	0.88489473	0.73734536	0.8067661	1.3330091	0.864847	0.83389434	1.2487366	1.0718781	1.3255228	1.285446	0.7834337	0.848972
N-hydroxy-2-acetylaminofluorene sulfoxide transferase (ST1C1)	1.2205179	0.93484753	1.0825053	1.1430051	1.2223845	0.9813861	0.9430827	1.1583462	1.0537323	0.63988246	0.6880871	0.95226115
Dynactin-1 (D100)	1.1457201	1.0842416	0.9738155	1.1832037	1.343776	1.2039401	1.0693034	1.0383091	0.8658602	0.956245	1.0382197	0.94853526
DNA polymerase beta	1.2257593	1.2084179	1.3049551	1.0452371	1.2771187	1.2633616	1.0848753	1.1222559	1.0152575	0.7286316	0.9039976	0.811684

Table 30

Phase-1 RCT-173	0.86413493	0.88774544	0.82787444	0.9205803	0.97312045	1.182882	1.0516305	1.1017287	1.1501344	1.152211	0.9805056
Ubiquitin conjugating enzyme (RAD 6 homologue)	1.1710309	1.0510105	1.0002911	0.8466367	0.9835736	1.1255294	0.9825555	0.9219541	1.0399281	1.1252346	0.932471
Ribosomal protein L13A	1.3701089	1.0624647	1.5592958	1.3942051	1.1810658	0.9728406	1.0602574	1.0478988	1.057864	1.286331	0.9763044
Phase-1 RCT-144	1.1121991	1.1004655	0.9910758	0.9990613	0.9990613	0.9738956	0.9807126	1.033265	0.9472864	1.010063	0.9206791
CH-1ra	1.0246978	1.1116841	1.2630117	1.0629385	0.97171617	0.9716927	1.0794367	0.9028777	1.0190454	0.9432829	1.004708
Vesicular monoamine transporter (VMAT)	1.0342048	1.1414692	1.0415913	1.0845035	1.0284392	0.95735604	0.98410206	0.9287803	0.9468133	0.93135538	0.7454687
Phase-1 RCT-273	0.8655388	0.8200508	0.9843888	0.8085707	0.9092654	0.890986	0.9518892	0.8335466	0.9141173	0.9542527	0.905915
Phase-1 RCT-230	0.9865127	0.946827	0.9231017	0.82712156	0.9046579	0.8384304	0.9545848	0.9117423	0.9779263	1.0536955	0.88888156
Phase-1 RCT-14	0.8104232	1.1865545	0.85152155	0.89251044	1.010441	0.94258014	0.8631133	1.241014	0.92808386	1.0713447	0.7885028
Phase-1 RCT-40	0.8901588	0.95378514	0.8076215	0.95170254	0.82874304	0.89430094	0.8631133	1.241014	0.92808386	1.0713447	0.7885028
Phase-1 RCT-158	0.97230646	0.91420144	1.03202926	0.79571708	0.72407573	0.89347353	0.89047353	1.0239784	0.90540735	0.9259211	0.8332697
Deoxyribidylase kinase	0.7804348	0.98872495	0.9817713	0.7887768	0.9219216	0.9119488	0.9015897	1.0239784	0.90540735	0.9259211	0.8332697
Inositol polyphosphate multikinase (Ipmk)	0.935575	0.91776496	0.9608854	0.9219216	0.9119488	0.9015897	0.9015897	1.0239784	0.90540735	0.9259211	0.8332697
Neuronal cell adhesion molecule (NCAM)	0.90684095	0.9864135	0.97017354	1.065391	0.82712156	0.9046579	0.8384304	0.9545848	0.9117423	0.9779263	1.0536955
Hepatocyte growth factor receptor	0.8127052	0.7746848	0.7208036	0.895393	0.82712156	0.9046579	0.8384304	0.9545848	0.9117423	0.9779263	1.0536955
Empty	0.973617	0.877167	0.8721621	1.0947464	1.0798851	1.1871877	0.965814	1.104299	1.090666	0.965814	1.0918928
Dopamine receptor D2	1.172834	1.3028952	1.2029281	1.3703439	1.5182401	0.9731445	1.041947	0.9845624	0.8427097	0.94081893	0.8501076
Phase-1 RCT-51	1.0255342	1.0342026	0.8069381	1.4374405	1.0743687	0.8828423	0.9187741	0.9230768	0.9083559	0.8433904	0.8210878
Four repeat ion channel	1.2761863	0.95707256	0.8655215	0.874907	1.0002033	0.9601191	0.9135736	0.8793849	0.958808	0.93115926	0.9349535
Adrenomedullin	0.784414	0.9911876	0.8943716	0.72775674	0.7337951	0.720072	0.8668553	0.73977953	0.9159786	0.974687	0.6990873
Caveolin-3	1.0281442	0.8650953	0.82873975	0.8920643	0.8653319	1.060433	0.8618525	0.8771957	0.8607729	1.0651328	0.9824753
Phase-1 RCT-120	0.988648	1.0232033	0.9270753	0.9727606	0.9533081	0.972162	0.8654398	0.84435874	0.9167633	0.9083559	0.8433904
Phase-1 RCT-84	0.92717737	0.9577047	0.94768628	1.0021082	0.89070976	0.97029625	0.90083164	0.9787078	0.97847116	1.0207373	0.9357187
Sarcoplasmic reticulum calcium ATPase	0.8000683	1.021398	1.255124	0.84217866	0.7910371	0.9100812	0.9007163	0.8671848	0.9065908	0.8439349	0.868624
Phase-1 RCT-78	0.13707	0.9678953	0.9526849	1.0419552	0.91735506	0.9286455	1.031671	0.9106698	0.9856626	0.8202895	1.1228554
Phase-1 RCT-252	0.951761	0.7071947	0.7102008	0.6959116	0.93276894	0.84004404	0.89841404	0.91161267	1.0241596	1.1611354	0.9099234
Phase-1 RCT-151	1.085588	0.8653009	1.0345305	0.95531404	0.96115255	1.0401349	0.91161267	1.0241596	1.1611354	0.9099234	0.9099234
Phase-1 RCT-70	0.9691556	1.218983	0.8304035	1.1247804	1.1255878	1.0445757	1.320622	0.9389199	1.0749799	1.127348	1.3114584
Phase-1 RCT-150	0.70903087	1.011668	0.9835035	0.99278577	1.1093788	1.001245	1.2894804	1.1696028	1.1764979	1.0445757	1.3114584
25-hydroxyvitamin D3-1 alpha-hydroxylase	0.8978748	1.0163624	1.126827	0.6840696	0.61768878	0.8097700	0.9701609	1.0047756	1.0445757	1.0517198	0.9831693
Phase-1 RCT-119	0.41870706	0.73717733	0.43270722	0.98524755	0.81620487	0.82911503	0.9278123	0.8336314	1.0116128	1.168777	0.9578014
Peridominal 3-ketobutyryl-CoA thiolase 2	1.0140221	1.002069	1.1233325	1.0759414	1.311788	1.0929551	1.2500901	1.297303	1.3613487	1.2114556	0.98021764
Phase-1 RCT-146	0.9304407	0.8508175	1.0312347	0.8980839	0.82658414	0.85899293	0.8706785	0.8982002	0.9441484	1.0135981	0.94897525
Superoxide dismutase Mn	1.2351783	1.3247412	1.2916013	1.3172843	1.525785	1.206582	1.1780657	1.1686528	0.987289	1.334492	1.1959337
Phase-1 RCT-115	1.247656	1.288404	1.277959	1.3944594	1.1703807	1.075876	1.0241059	0.9032572	1.0305599	1.040957	1.1163965
Alpha-1 microglobulin/bikunin precursor (Ambp)	1.3794248	1.4971727	1.4347867	1.468111	1.7922391	1.1625497	1.0130003	0.8408277	1.0909973	1.1167821	1.1407892
Phase-1 RCT-18	1.0287815	0.85278926	1.0005987	0.89541286	1.0232558	0.9044365	0.8929807	0.89528145	1.0373594	0.84814557	0.95550144
Maspin	0.7388975	0.89546474	0.9210596	0.85069627	0.9310392	0.83769789	0.88511604	0.8918583	0.8056371	0.87859345	0.7054464
Decorin	0.9734114	0.9175974	0.8842502	0.9057184	0.65175086	0.8264873	0.82155263	0.8511787	0.828307	1.0378517	0.9718517
Retinol X receptor alpha	0.8497678	1.088015	1.0281593	0.96404104	0.68201843	0.92400748	1.0573285	1.000136	1.1121967	1.055684	0.9670002
Cellular nucleic acid binding protein (CNUBP)	1.158652	1.130784	1.536142	1.1916307	1.4181591	1.3110592	0.99999994	1.0833293	1.0933922	0.92605174	1.0118968
NAADPH cytochrome P450 oxidoreductase	0.9365457	1.04804	1.0045353	0.8565203	1.033585	1.1150255	1.0308007	0.99111354	1.0396476	1.2958155	1.0982035
Matric enzyme	0.71887573	0.81467354	0.6530443	0.5381083	0.61000264	0.78400207	0.9159287	1.043881	0.83167126	1.307659	1.3331271
Caspase 1	0.89428715	0.81634694	0.8928783	0.8103687	0.61144173	0.97763524	0.9159287	1.043881	0.83167126	1.307659	1.3331271
Cystatin C	1.0688258	1.052338	1.182687	0.7149704	0.8045712	1.122785	0.862025	1.0300207	1.0278579	0.94531953	0.983984
p55QC	1.1121769	1.2986013	1.4052888	0.7149704	0.8045712	1.122785	0.862025	1.0300207	1.0278579	0.94531953	0.983984
Poly(ADP-ribose) polymerase	0.80740025	0.8737869	0.9390088	0.8947692	0.9946399	0.98989993	1.0391628	0.997631	0.9721895	1.307532	1.0342768
Tissue plasminogen activator	1.1170718	1.0212727	1.1875848	1.317348	1.8416704	1.0669353	0.9865545	1.0425472	0.93982734	0.89516546	0.9272085
Mitochondrial protein-1	1.0469954	1.23871	1.1489909	0.7471559	0.78916824	1.0102826	1.043311	1.141765	1.6355392	1.0241688	1.0328981
Phase-1 RCT-207	1.0633217	0.95114125	1.0384044	1.2777399	0.73226383	0.8810274	1.0045472	1.0249842	0.84522715	1.2053281	1.2114515
Phase-1 RCT-181	0.92414075	0.9035757	0.8903963	0.91152227	0.94651586	0.97764208	0.9915699	1.0203453	1.0824454	0.9865335	0.9928983
Gap junction membrane channel protein beta 1 (Gjb1)	0.98518455	1.4510382	0.8943361	1.3516466	1.3471582	1.1951383	1.6567571	0.9164035	1.5153829	0.919213	1.5003025
Aquaporin-3 (AQP3)	0.8382462	1.0349002	0.8198887	1.075537	0.97460884	1.013484	0.9285014	0.9882771	1.0059766	0.9218134	0.98644447
Myelin basic protein	1.1272926	0.9723873	1.2092889	0.99500146	1.030323	1.012126	1.065524	1.0017891	1.0424077	1.1945688	1.014807
Calgranulin B3	1.0238827	0.8908346	1.0582463	0.75825383	0.78420873	0.84370476	0.9528117	0.9720898	0.8493736	1.0833751	0.9596811

Table 30

Phase-1 RCT-156	1.0500057	1.1632013	1.1726009	1.0469619	1.1144736	1.2219226	1.0381737	0.9988454	1.1244341	1.1844108	0.9420844	0.9397828	1.0522237
Proteasome activator 28 alpha	1.0820715	1.0357869	1.218517	0.73730685	0.78665886	0.857769	1.0430508	1.0859379	1.0534103	0.8407846	0.9647896	0.833888	0.8018816
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 hr: yes=ncr, necrosis observed; yes=bn, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 26)													

Table 30

Table 30. Expression Data for 72 Hour Timepoint (1)														
Compound-Dose (2)	STRZ 20	STRZ 75	STRZ 100	STRZ 150	STRZ 200	STRZ 250	STRZ 300	STRZ 350	STRZ 400	STRZ 450	STRZ 500	STRZ 550	STRZ 600	STRZ 650
Animal Number (3)	1728	1729	1730	1731	1732	1733	1734	1735	1736	1737	1738	1739	1740	1741
Liver Toxicity Inflammation Classification (4)	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Gene Name (5)	1.486984	1.126361	1.25172	0.908215	1.220814	0.962718	0.962718	0.962718	0.962718	0.962718	0.962718	0.962718	0.962718	0.962718
Phase-1 RCT-107	0.7121674	0.7502847	0.76191616	0.680189	1.256894	0.37196717	0.40012664	0.3756628	0.38559197	0.8091702	0.36628702	0.50009704	0.2574518	0.2574518
Betaine homocysteine methyltransferase (BHMT)	1.239071	0.9533623	0.7464068	0.7496585	1.0721165	0.3184688	1.1695225	1.0259458	1.0431465	0.7841168	0.1431465	0.7841168	0.7591012	0.7591012
Proliferating cell nuclear antigen gene	0.93279705	1.268232	1.6568328	1.7088546	1.2547769	0.9329841	0.9621028	1.0300053	1.0788837	0.83334833	0.1016128	0.5751232	0.70265956	0.70265956
Cytochrome P450 2D18	0.8320344	0.9201089	0.69845194	0.852741	0.9220443	1.0354841	1.1724123	1.015075	1.2024767	1.1388794	0.8542774	0.800182	0.800182	0.800182
Phase-1 RCT-200	1.216917	0.8891508	0.6608264	0.788781	1.053919	0.5143609	0.51173097	0.5410875	0.60283045	0.8366842	0.9041629	0.65257305	0.4168931	0.4168931
Phase-1 RCT-250	1.3344548	0.8147755	0.8463598	0.8326133	0.92755234	0.7612529	0.8089689	0.80519134	0.8504673	0.7894463	1.055462	0.90276164	0.7718754	0.7718754
Beta-actin, sequence 2	0.6550991	1.213172	0.9740806	0.81514937	1.1101569	0.9994228	1.034017	0.950477	0.78938336	1.1876013	0.5892897	0.9942531	1.080346	1.080346
Phase-1 RCT-292	1.1432822	1.1017989	0.95900625	1.3243392	0.89711565	1.2376605	1.2958425	1.2679335	1.3037096	1.0804348	0.97954935	0.9942531	0.9942531	0.9942531
Pyruvate kinase, muscle	2.439358	0.97893566	1.163277	1.0870942	1.2145262	1.0311542	1.319831	1.583705	0.8697425	1.1414819	0.9813544	0.85883396	0.6784725	0.6784725
Osteocalcin	1.2243098	1.2246249	1.0848802	0.85745194	1.1001284	1.2981797	1.4004896	1.4354822	1.1097194	1.1593738	0.9994506	1.4489881	1.111706	1.111706
Calgranulin B1	1.062465	0.89364225	0.9874293	0.89175445	1.2570667	0.82458875	0.86697606	0.8075859	1.0998076	1.190886	0.83236065	0.64303505	0.8151461	0.8151461
Apolipoprotein AII	0.45918557	0.76945955	0.5248302	0.54772224	0.73745384	0.5425714	0.75941013	0.82474244	0.43717085	0.4178615	0.44384685	0.33692843	0.29818828	0.29818828
Coronin-32	1.4769953	1.3910653	2.3556392	1.7587031	1.5295956	1.075753	0.939167	0.79549515	1.0510248	1.265216	0.9076401	0.618352	0.583222	0.583222
Phase-1 RCT-109	1.2149953	1.6185144	0.8108805	1.6376875	1.31975884	0.76846404	0.80289285	0.8546991	0.3097509	0.2859593	0.41288442	0.6477823	0.59176093	0.59176093
Glycine methyltransferase	0.6279937	0.7593882	0.8819048	1.083311	1.4385376	0.55437634	0.45715808	0.84835595	0.86337095	0.8729019	0.7639115	0.8809768	0.6845456	0.6845456
L-glutamate gamma-lyxone oxidase	0.79022014	0.9372141	1.0984063	1.1292363	1.516328	0.9896604	0.86963396	0.8075859	1.1428961	0.7449634	0.41288442	0.6477823	0.59176093	0.59176093
Phase-1 RCT-256	0.9437767	1.558297	1.6383838	2.102871	2.813087	0.80253384	0.19097233	0.23496015	1.8935399	0.84425465	1.1476045	1.8412581	1.6500922	1.6500922
Carbonic anhydrase III	1.0894075	1.118958	1.118958	1.0511342	1.0359469	0.9074343	0.93430674	0.8236732	0.7782897	0.65046114	0.808902	0.810978	1.0984285	1.0984285
Urinary protein 2 precursor	0.48151722	0.819974	0.9257114	1.0413243	0.75764598	0.6818437	0.8439863	0.8719386	0.7394598	0.960208	1.197673	0.7747831	1.0408738	1.0408738
Insulin-like growth factor I	0.48145145	0.7909744	0.9408759	0.8023384	0.8571104	0.7439446	0.8710431	0.84037704	0.7394598	0.960208	1.197673	0.7747831	1.0408738	1.0408738
AVI sulfotransferase	0.89445097	0.7502548	0.7713219	1.134959	1.328839	0.80694107	0.8168362	0.8054837	0.50358	0.52618456	0.8176556	0.7225388	0.4869321	0.4869321
Phase-1 RCT-185	0.7080291	1.012323	1.0893444	1.3998512	1.54653	0.9585471	0.9784333	0.9053775	0.94847098	0.8534525	0.8680818	0.92105	1.1094187	1.1094187
Collin	0.7707647	1.284621	1.046429	1.228448	0.82813894	0.52644354	0.94033204	0.8176884	0.7769225	0.624632	0.8978226	0.85141575	0.7658318	0.7658318
Statforn	1.103538	1.0777308	0.99415344	0.8029514	0.83003876	0.813825	1.2253225	1.066918	0.8192716	1.1384577	1.045257	1.3809442	1.3787846	1.3787846
GUS ribosomal protein L6	0.63585035	0.76350847	0.9032464	0.8792679	0.6968312	1.0040091	1.379538	1.2584774	1.200544	1.240121	0.9534234	1.5026442	1.654438	1.654438
Calpactin heavy chain	1.3760517	1.0408756	1.0677018	0.9151135	0.94395246	0.8218359	0.9710456	0.9778951	1.0380108	1.240121	0.9534234	1.5026442	1.654438	1.654438
Collagen type II	0.9237824	1.078401	1.0942884	1.1594627	1.0919645	1.1519681	0.82171925	1.865747	1.0110316	1.9059569	0.9068243	2.6265215	3.550191	3.550191
Phase-1 RCT-179	0.269812	1.1213828	1.0825669	1.2493532	0.85173494	0.9127245	1.0897127	1.0308352	1.2377066	1.200068	1.117788	1.5439694	1.5281963	1.5281963
Voltage-dependent anion channel 2 (Vdac2)	0.8069192	1.1551033	1.2538476	1.2769498	1.8037201	0.8771504	0.9488451	0.8780261	1.0451893	0.9835571	0.8530932	1.0777891	0.9765405	0.9765405
Phase-1 RCT-192	0.58425293	0.7060467	0.9273255	0.9151546	0.7424073	0.8348097	0.91759706	1.4334843	0.8834151	0.96802225	0.9543006	1.2512774	1.332421	1.332421
Adenine nucleotide translocator 1	0.78056785	0.90529098	0.85670763	0.92834275	0.8103728	0.86879586	0.9775639	1.2343289	0.7926056	0.8731886	0.7348247	0.8376507	0.6533549	0.6533549
High affinity IgE receptor gamma chain (FCER1gamma)	1.0050336	0.9270305	1.1156305	1.0600115	0.9542303	0.89025205	1.0058405	1.0163703	0.9032592	0.97235125	0.95561	1.3271794	1.1933444	1.1933444
Gamma-actin, cytoplasmic	0.71749103	0.86771125	0.8429455	0.8279779	0.86110904	0.87156883	0.9168636	1.0732131	0.8413016	0.9819978	0.82230145	1.5400298	1.0568184	1.0568184
Uncoupling protein 2	1.248089	1.0078627	1.0294204	0.8022583	0.89146044	1.0232241	1.3010206	1.4715091	0.8838153	1.1049342	0.9874108	0.9206037	0.73327726	0.73327726
Phase-1 RCT-34	0.85975785	1.024133	0.96011	1.046948	0.8684795	1.0281565	0.8787275	0.8048101	1.1548043	0.9251071	0.91514987	0.95053925	1.0875033	1.0875033
Cyclin D1	0.82859537	0.8189215	0.8320883	1.2941844	1.5376081	0.99821475	0.7241248	0.813878	0.7322081	0.5778754	0.8550421	1.8156983	2.0410388	2.0410388
IntE binding protein	1.2080109	0.9735124	1.0107667	0.955668	0.94080573	1.0266514	1.6591253	1.6776943	0.8952368	1.3055383	0.84447917	1.3022168	1.0545781	1.0545781
Zinc finger protein	1.1011443	1.027155	0.8955568	0.7641532	0.7463166	1.0496286	1.0951006	1.14825	0.7126847	0.85788816	0.9031268	1.1451278	1.159525	1.159525
Phase-1 RCT-138	0.89176284	0.9814513	1.0408947	1.12392	1.0293933	0.89492794	1.1803229	1.645328	0.9653089	0.812559	0.84126743	0.77671486	1.355181	1.355181
Alpha-tubulin	0.8482105	0.9738958	0.87288023	0.858475	0.8958774	0.9153651	1.0705589	0.9604809	0.812559	0.84126743	0.77671486	1.355181	1.355181	1.355181
Alpha-prothymosin	0.6286907	0.9876229	0.97683567	1.220387	0.6838688	0.47089536	0.5235139	0.5037957	0.7523959	1.0622166	0.9365686	1.2477317	1.2163706	1.2163706
Calpain 2	1.1774316	1.063392	1.1755668	1.0184402	0.3159946	0.97267898	1.0597734	1.0736188	0.9451917	0.94877277	0.8440368	1.263461	1.2029795	1.2029795
Phase-1 RCT-12	1.001223	1.5404131	1.3102182	1.3638863	1.2503355	1.0477118	0.948872	0.9428897	0.8603784	0.9451917	0.94877277	0.8440368	1.263461	1.263461
Cathepsin B	0.6852843	0.91411555	0.9783378	1.2194289	1.0277311	1.189265	1.6034989	1.6336076	0.9844202	1.0621326	0.9877188	1.263461	1.2029795	1.2029795
Phase-1 RCT-24	0.95328534	1.19227	1.3459278	1.4411497	1.084702	0.8667344	1.0305177	0.92259127	0.845805	0.9162975	0.7855263	1.3247733	0.83267194	0.83267194
Melanoma-associated antigen ME491	1.1674352	0.98137444	1.166987	0.98261964	0.9821285	0.9789107	1.116485	1.2378613	0.9183864	1.0253241	1.125158	1.5555691	1.7701731	1.7701731

Table 30

Phase-1 RCT-68	1.2533047	1.0647465	1.1169829	1.12285	1.0047882	1.0575044	1.0417048	1.2534204	1.0394897	1.0096682	1.1516235	1.0010898
Cyclin G	1.3759168	1.0805221	0.92228174	0.8251178	1.0581877	1.3721974	1.3721974	1.0759699	0.8559458	1.0878063	1.1632564	1.0022886
Hypoxanthine-guanine phosphoribosyltransferase	0.8808539	0.9657009	0.76697527	1.0247474	0.8022841	0.8140731	0.8678831	0.8580344	0.7501986	0.746833	0.9289498	0.7473104
Tissue inhibitor of metalloproteinases-1	1.3627948	1.0705994	1.1139794	0.9991511	1.2539866	1.0421947	1.7886073	1.209945	1.0885003	1.0374554	1.027824	1.0207481
ID-1	0.9169272	1.3918084	1.0468715	1.2125318	0.9170005	1.2760999	1.1542871	1.1709597	1.1528189	1.1182128	0.8450687	0.8200442
Ribosomal protein S9	0.6152145	0.7712128	0.89639825	0.9071876	0.9110086	0.8497704	1.1563432	0.95867515	0.89553365	0.85707874	1.3916678	1.1614789
Heme oxygenase	1.0108157	0.7588112	0.723247	0.7678054	0.7688645	0.8628455	2.3488657	3.256237	1.0091981	0.99265337	0.9061007	1.9631225
Ribosomal protein S8	0.6286294	0.93702745	1.2287263	1.0580046	1.3383131	0.90501605	1.1816401	1.04294	1.1471692	1.0687653	1.0523475	1.2842228
Ribosomal protein S17	0.5978484	0.8710712	1.3727875	1.053949	1.415261	0.8881791	1.0974076	0.9832308	1.043608	0.9563243	0.94095075	1.3207366
Nucleoside diphosphate kinase beta isoform	0.76246168	0.8656604	1.3455538	1.2011223	1.11707	1.0604186	1.3778458	1.2760112	0.857432	0.8911983	0.8889326	1.1769778
Phase-1 RCT-121	1.0532557	0.8639463	0.8410542	0.8303798	1.07483074	0.967304	1.0676543	1.0413247	1.0717664	1.0597755	1.0781957	0.7354917
14-3-3 zeta	0.8351129	1.1603336	0.84282615	1.3226041	0.85586184	0.967304	1.0676543	1.0413247	1.0717664	1.0597755	1.0781957	0.7354917
60S ribosomal protein L8 (alternate clone 1)	0.69871885	1.0128478	1.218231	1.0891551	1.21882	1.0046812	1.2550373	1.2550373	0.7788321	0.7254347	0.81818794	1.156831
Beta-tubulin, class I	0.9259538	1.2314029	1.5150888	1.5823231	1.1758378	0.6779704	0.793546	0.793546	0.7788321	0.7254347	0.81818794	1.156831
Organic cation transporter 3	1.1575699	0.8524823	0.8168814	0.68682943	0.6279067	1.05086	1.3869711	0.8883315	1.1732975	1.1518208	1.0038176	1.2626771
Beta-actin	0.7765707	1.3493251	1.031318	1.1800225	1.0413902	0.86448437	0.8908391	0.84185394	0.81875904	0.77376904	0.7471425	1.2042177
Cathepsin S	0.8455864	0.87610828	1.0532115	0.9041093	0.7817898	1.2987655	1.7207108	0.78902287	0.88368603	0.7496163	1.401231	1.4728478
Bilirubin reductase	1.4077027	1.0098919	0.844813	1.0074707	0.8906388	1.1662991	1.4580387	1.1774156	1.2151084	1.2435453	0.9391783	0.97115874
Phase-1 RCT-154	1.0221314	0.922736	0.86791164	1.0314462	0.8160467	0.8836709	0.9492252	0.8650836	0.8552465	0.839142	1.0351454	0.8916537
Phase-1 RCT-293	1.2253299	0.8824394	1.004074	1.0336562	1.0002801	1.2189043	0.282721	1.295573	0.8802945	1.117475	0.8790437	1.4285901
Annexin V	1.1601754	1.0088307	0.98914087	0.96632617	0.94707008	1.3378588	2.8444597	2.8080858	1.1856428	1.3045444	1.0287087	1.0540233
Complement factor I (CFI)	0.8514498	1.1193947	1.1425638	1.2639021	1.2522451	1.6046803	1.9417945	1.7490607	1.8207054	1.8199225	1.4600551	2.5241688
Phase-1 RCT-276	0.99551495	1.0939559	0.9866664	1.1630961	0.934892	0.85103734	0.7908158	0.7469436	0.84398628	0.8960112	1.071504	1.1905528
Tyrosine aminotransferase	0.36399058	0.8175408	0.64202464	0.8630566	0.81783425	0.65861624	0.8104436	0.5504287	0.8115178	0.943513	1.9650784	2.5670922
Glutathione peroxidase	0.6468218	0.7022375	1.2707281	0.99050504	1.2256866	1.1439738	0.9335017	0.7109744	1.3489778	1.2491481	1.3844254	1.371212
Histidine-rich glycoprotein	0.57350755	1.172911	0.9460975	1.1370361	1.2512642	1.174394	0.79860735	0.759672	0.8800546	0.82926345	0.76446708	1.9239343
Carbonic anhydrase III, sequence 2	0.57219698	1.1070514	0.8472761	1.105441	0.92258	0.6585263	0.71888727	0.6505053	0.6874665	0.79249607	0.74136	1.9289316
Phase-1 RCT-92	0.78574187	0.9502134	1.1266028	1.2802374	1.1236386	0.69597214	0.7884085	0.71399226	0.84048814	0.8883325	0.8938679	1.5759394
Transitional endoplasmic reticulum ATPase	0.78722375	1.1952289	1.0427284	1.3643146	1.018457	0.94586114	0.8538326	0.8284081	0.8459454	0.81600306	1.0397469	1.4381731
Phase-1 RCT-88	1.0957181	1.0362532	0.8233785	0.9360968	0.81468	0.75064194	0.8538326	0.8284081	0.8459454	0.81600306	1.0397469	1.4381731
Phase-1 RCT-268	0.57847805	1.0011846	1.113528	1.2107216	1.004723	0.81171054	0.7307633	0.6812854	0.7307633	1.0683653	1.0562715	2.2878185
Phase-1 RCT-161	1.4598262	1.345257	1.2971865	1.6410717	1.9275031	0.80192673	0.6892035	0.645852	1.3328248	0.98978163	1.0429349	1.2793273
Glutathione S-transferase theta-1	0.888731	1.0398905	1.1985923	1.18214	1.1561726	0.9495608	1.2030754	1.0211728	0.8764953	0.80559325	0.7282098	1.1328571
Phase-1 RCT-168	0.85872215	1.082380	0.96358055	1.187313	1.053898	1.2284359	1.589244	1.1805943	0.9259534	1.113821	1.5288721	1.365036
JNK1 stress activated protein kinase	0.87187273	0.94629955	1.2811825	1.200898	1.2438716	1.1340049	1.013411	0.9651273	1.2564092	0.88913774	1.0920851	1.0221117
Phase-1 RCT-81	1.197736	1.0065053	0.9978897	1.0668089	1.0329331	1.2528028	1.3537811	1.398917	0.7986168	0.6860088	0.9863885	0.7173917
Phase-1 RCT-33	0.7302124	0.9235608	0.7809526	1.0752071	0.91781386	0.82092186	0.72633114	0.82442564	0.7096167	0.65333116	0.82297266	1.003576
Phase-1 RCT-178	1.0778543	1.0071913	0.94041374	1.335191	1.2091719	0.7373292	0.6912259	0.7035232	1.2312409	1.0828167	1.0947787	0.92811937
Apolipoprotein CIII	0.7762484	0.8897858	0.7645044	0.85438246	0.78241676	0.68678755	0.4220249	0.47860918	0.753236	0.67471445	1.0837048	0.87092423
Phase-1 RCT-98	1.2580825	0.9845877	0.99248854	0.96051824	1.0288133	0.7410806	0.635163	0.6504174	0.9774157	0.8983151	0.82781359	1.0249015
NADH-cytochrome b5 reductase	0.8501107	0.9521039	1.1164029	1.3497388	1.5421277	0.9404967	0.97271687	0.9581257	0.4921329	0.471859	0.41612525	1.4108414
Alpha 1-inhibitor III	0.5595485	1.2134271	1.2780528	1.3200783	0.9907774	0.96003574	0.5070952	0.43477852	0.97228914	1.3058364	1.416724	1.3855638
Phase-1 RCT-233	0.870185	1.2240701	1.2186468	1.485175	1.1651438	0.79635886	0.8626088	0.7455196	0.9250384	0.9561414	0.8593788	1.2235048
Paraoxonase 1	0.4953377	0.81501216	1.0867166	1.0182929	1.1741096	0.9570869	0.5024484	0.42912334	0.88431104	1.3124983	1.4446639	1.4148115
Preserilin-1	0.48431504	1.2477808	1.2320577	1.3458834	0.7070613	0.9570869	0.5024484	0.42912334	0.88431104	1.3124983	1.4446639	1.4148115
Apolipoprotein C1	0.9518714	0.8656991	1.1080723	1.2730874	1.0056074	0.5439099	0.3983358	0.5232881	0.6838314	0.666046	0.9507624	0.83008983
Cytochrome P450 2C23	0.48882586	0.8176694	0.705941	0.957099	0.62451535	0.8367928	0.634084	0.67062575	1.0437006	0.823846	1.1085724	1.0080829
Phase-1 RCT-227	0.94578866	1.3600143	1.4718487	1.6375597	1.455554	0.8383043	0.8918468	0.833939	1.2004492	0.9088688	1.075881	1.2714685
Hepatic lipase	0.9178886	0.8442578	0.6504138	0.8178584	0.8081925	0.84646557	0.7653942	0.38716968	0.8759653	0.6916008	0.7827737	1.0700368
Phase-1 RCT-164	0.9007969	0.8893122	0.8671934	0.80521336	0.8423508	0.801901	0.8318071	0.968507	0.968507	0.9378017	0.8759653	1.04261
Multidrug resistant protein-2	1.1542767	1.3571384	1.6923106	1.984044	1.8383039	1.1638235	2.2669731	2.9843185	0.8097399	0.8808424	1.0684923	0.89088717
Insulin-like growth factor 1, exon 6	0.65317243	1.1393111	1.281674	1.384153	1.030838	1.147367	0.74532139	1.137138	1.430333	1.5775659	0.59653143	0.82581713
N-hydroxy-2-acetylaminofluorene sulfotransferase (STT1C1)	0.6829965	0.8533972	1.0481176	1.0678674	0.9627896	0.7686085	0.9319807	1.35805	1.020404	1.168144	1.0165265	1.5308821
Dynamin-1 (D100)	1.2564635	1.0753074	0.8646917	1.0697788	0.99029124	1.0162876	0.9552914	0.87229323	1.1671246	0.9740189	1.0277789	0.9733325
DNA polymerase beta	0.8619683	0.8728755	1.1793504	1.0693577	1.0152881	0.7828169	0.8955486	0.87598623	0.88906596	0.78096986	0.8382609	1.0785624

Table 30

Phase-1 RCT-173	1.0653462	1.0307723	1.0317255	1.0011256	0.7884076	0.8644239	0.6755675	0.7045154	0.7386677	0.9336775	0.8849878	0.58931895	0.56934808
Ubiquitin conjugating enzyme (RAD 6 homologue)	0.98339752	0.86413165	0.8349586	0.8375875	0.8277871	0.8834111	1.082156	0.98401846	1.0228165	0.9337607	0.9566788	1.3842158	1.1766681
Ribosomal protein L13A	0.64423025	1.1365991	1.0387817	1.2033974	0.88934684	1.0182365	1.218399	1.1777829	1.1075616	1.1922925	0.9912565	0.8710556	0.6451847
Phase-1 RCT-144	0.9527018	0.9518838	0.8999174	0.9707037	1.0235733	0.9363535	0.96288415	0.96288415	0.96288415	0.96288415	0.96288415	0.96288415	0.96288415
e-H-ras	0.6592824	1.0033635	1.1213756	0.9707037	1.0235733	0.9363535	0.96288415	0.96288415	0.96288415	0.96288415	0.96288415	0.96288415	0.96288415
Vesicular monoamine transporter (VMAT)	1.8427893	0.8024446	0.9068162	0.8128076	0.9681658	1.2627136	1.2067548	1.1894232	1.2428672	1.1763263	1.0514407	0.9430153	1.0389403
Phase-1 RCT-273	1.3965007	0.9048635	0.9068162	0.8128076	0.9681658	1.2627136	1.2067548	1.1894232	1.2428672	1.1763263	1.0514407	0.9430153	1.0389403
Phase-1 RCT-230	1.5155922	0.8725508	0.8734242	0.7955507	0.9930998	1.0305560	0.9931435	0.9931435	0.9931435	0.9931435	0.9931435	0.9931435	0.9931435
Phase-1 RCT-74	1.7336878	0.84388775	0.8503508	0.65154915	0.7862597	0.7862597	0.7862597	0.7862597	0.7862597	0.7862597	0.7862597	0.7862597	0.7862597
Phase-1 RCT-80	1.7317445	0.8616396	0.7518408	0.673655	0.7862597	0.7862597	0.7862597	0.7862597	0.7862597	0.7862597	0.7862597	0.7862597	0.7862597
Phase-1 RCT-158	1.7025888	0.9559501	0.8011566	0.5768845	0.8260687	0.8260687	0.8260687	0.8260687	0.8260687	0.8260687	0.8260687	0.8260687	0.8260687
Deoxyglucose kinase	1.565471	0.8398175	0.8695577	0.5949699	0.8136687	1.1274488	1.238749	1.238749	1.238749	1.238749	1.238749	1.238749	1.238749
Inositol polyphosphate multikinase (IPMK)	1.4263108	0.9091828	0.8820762	0.8781861	0.9970804	0.8781861	0.8781861	0.8781861	0.8781861	0.8781861	0.8781861	0.8781861	0.8781861
Neuronal cell adhesion molecule (NCAM)	1.8598431	0.903452	0.8565747	0.7159984	0.5633302	1.0629445	1.1016468	1.1016468	1.1016468	1.1016468	1.1016468	1.1016468	1.1016468
Hepatocyte growth factor receptor	1.576471	1.2778569	1.1194214	0.9985434	1.1290405	1.16163	1.3432435	1.3432435	1.3432435	1.3432435	1.3432435	1.3432435	1.3432435
Empty	2.7573745	0.8053536	0.74972767	0.52800167	0.61835223	0.8456116	0.8891178	0.8891178	0.8891178	0.8891178	0.8891178	0.8891178	0.8891178
Dopamine receptor D2	1.1286922	1.0412821	1.0198081	1	1.668384	0.9321169	0.8544182	0.8544182	0.8544182	0.8544182	0.8544182	0.8544182	0.8544182
Phase-1 RCT-51	1.5059057	0.92371786	0.8534504	0.7883588	0.8505562	1.0242172	0.8667283	0.8667283	0.8667283	0.8667283	0.8667283	0.8667283	0.8667283
Four repeat ion channel	1.5596192	0.86133985	0.82939668	0.71188915	0.7765278	0.8553221	0.91315335	0.91315335	0.91315335	0.91315335	0.91315335	0.91315335	0.91315335
Adrenomedullin	2.7820282	0.7652768	0.76905	0.5290072	0.5582337	1.4487252	0.796529	0.796529	0.796529	0.796529	0.796529	0.796529	0.796529
Cardiolin-3	1.663286	0.8788543	0.8545884	0.60133216	0.7628724	0.7631605	0.8408087	0.8408087	0.8408087	0.8408087	0.8408087	0.8408087	0.8408087
Phase-1 RCT-129	1.7626818	0.9781126	0.9114586	0.8417808	1.017539	0.9556375	0.8271198	0.8271198	0.8271198	0.8271198	0.8271198	0.8271198	0.8271198
Phase-1 RCT-84	1.2623395	1.0078652	1.0048919	0.9087887	0.8490008	1.0778873	1.0746613	1.0746613	1.0746613	1.0746613	1.0746613	1.0746613	1.0746613
Sarcoplasmic reticulum calcium ATPase	0.978283	0.9038398	0.8562315	0.8692315	0.7598436	1.1025983	1.2033964	1.2033964	1.2033964	1.2033964	1.2033964	1.2033964	1.2033964
Phase-1 RCT-79	1.2372392	0.926309	0.874139	0.789436	0.847807	0.98901454	0.96451557	0.96451557	0.96451557	0.96451557	0.96451557	0.96451557	0.96451557
Phase-1 RCT-252	0.62150785	0.9400029	0.8490181	1.0392187	1.3293312	0.7440509	0.7313243	0.7313243	0.7313243	0.7313243	0.7313243	0.7313243	0.7313243
Phase-1 RCT-151	0.91841625	1.1716304	1.4265943	1.2600534	1.0553516	0.8453365	1.0851207	1.0851207	1.0851207	1.0851207	1.0851207	1.0851207	1.0851207
Phase-1 RCT-70	1.3961308	0.92153543	1.0830218	0.9432028	1.0063918	0.8583365	0.85448654	0.85448654	0.85448654	0.85448654	0.85448654	0.85448654	0.85448654
Phase-1 RCT-160	0.97865278	1.2625762	1.2085595	1.5401332	0.97551817	0.7531111	0.7063137	0.7063137	0.7063137	0.7063137	0.7063137	0.7063137	0.7063137
25-hydroxyvitamin D3-1 alpha-hydroxylase	1.2275506	0.9124868	1.5987805	0.6849286	1.433952	1.1316173	1.0692269	1.0692269	1.0692269	1.0692269	1.0692269	1.0692269	1.0692269
Phase-1 RCT-119	0.918263	0.8641445	0.4940478	0.9300746	1.3129867	0.6213505	0.4842612	0.4842612	0.4842612	0.4842612	0.4842612	0.4842612	0.4842612
Peroxisomal 3-ketoad-CoA thiolase 2	0.928464	1.0672743	1.1621078	1.2916456	1.5194219	1.3596808	0.8992745	0.8992745	0.8992745	0.8992745	0.8992745	0.8992745	0.8992745
Phase-1 RCT-146	1.4687218	0.9239754	0.9450403	0.5622723	0.8238125	1.0637678	1.2291349	1.2291349	1.2291349	1.2291349	1.2291349	1.2291349	1.2291349
Superoxide dismutase Mn	0.8597224	1.1673906	1.2283359	1.2573687	1.3935306	0.9663678	1.7371026	1.7371026	1.7371026	1.7371026	1.7371026	1.7371026	1.7371026
Phase-1 RCT-116	1.5799432	0.8582829	0.88175476	0.8217802	0.8109299	1.313331	1.4584686	1.4584686	1.4584686	1.4584686	1.4584686	1.4584686	1.4584686
Alpha-1 microglobulin/bikunin precursor (Amp)	0.59786574	0.98316564	1.0620427	1.2687117	1.2646356	1.2506275	1.3297168	1.3297168	1.3297168	1.3297168	1.3297168	1.3297168	1.3297168
Phase-1 RCT-18	1.3034104	0.9144239	0.9674243	0.8472638	0.9888907	1.0377243	0.93852196	0.93852196	0.93852196	0.93852196	0.93852196	0.93852196	0.93852196
Magasin	1.992184	0.7951463	0.7432608	0.5329277	0.572413	1.2409912	1.081523	1.081523	1.081523	1.081523	1.081523	1.081523	1.081523
Decodin	1.384381	1.0109786	0.80345184	0.85538025	0.7800224	1.1386932	1.6511033	1.6511033	1.6511033	1.6511033	1.6511033	1.6511033	1.6511033
Retinoid X receptor alpha	1.4709884	0.6897778	1.1888591	0.8598347	1.4133348	1.1546152	1.247005	1.247005	1.247005	1.247005	1.247005	1.247005	1.247005
Cellular nucleic acid binding protein (CNBP)	0.7236202	1.047666	1.0065731	0.8376865	1.2425303	1.0715101	0.93112683	0.93112683	0.93112683	0.93112683	0.93112683	0.93112683	0.93112683
NADPH cytochrome P450 oxidoreductase	1.6479609	1.3840335	1.6843293	1.5863873	1.5421523	1.844034	1.3599778	1.3599778	1.3599778	1.3599778	1.3599778	1.3599778	1.3599778
Malic enzyme	0.9507819	0.8243246	0.7453084	0.63748705	0.6909541	0.896182	0.6084838	0.6084838	0.6084838	0.6084838	0.6084838	0.6084838	0.6084838
Caspase 1	1.391169	0.9265067	0.70951216	0.5959541	0.6449825	0.8116346	1.0372516	1.0372516	1.0372516	1.0372516	1.0372516	1.0372516	1.0372516
Cystatin C	0.7723018	1.0771463	0.9264935	1.0528087	1.2012771	0.8798389	0.89462304	0.89462304	0.89462304	0.89462304	0.89462304	0.89462304	0.89462304
p55CDC	1.5314121	0.82314687	0.98179286	0.8388568	0.8388568	0.8388568	0.8388568	0.8388568	0.8388568	0.8388568	0.8388568	0.8388568	0.8388568
Poly(ADP-ribose) polymerase	1.2284114	1.3776127	0.782078	0.9692534	0.83928164	1.1473416	1.4029422	1.4029422	1.4029422	1.4029422	1.4029422	1.4029422	1.4029422
Tissue plasminogen activator	1.2908865	0.8920774	0.9008345	0.7051425	0.8744884	0.6722749	0.98513436	0.98513436	0.98513436	0.98513436	0.98513436	0.98513436	0.98513436
Multidrug resistant protein-1	1.528033	1.3739319	1.7082875	1.8100783	1.8718935	1.2597905	1.4541641	1.4541641	1.4541641	1.4541641	1.4541641	1.4541641	1.4541641
Phase-1 RCT-207	1.0862787	1.0136552	0.91423668	0.87707397	0.78827885	0.74373096	0.75507154	0.75507154	0.75507154	0.75507154	0.75507154	0.75507154	0.75507154
Phase-1 RCT-181	0.9900395	1.0588185	1.0299608	1.0534767	0.9805387	0.8340258	1.0365643	1.0365643	1.0365643	1.0365643	1.0365643	1.0365643	1.0365643
Gap junction membrane channel protein beta 1 (Gib1)	2.2668269	1.4648404	2.3530307	1.8545427	1.9545292	0.8040759	0.880899	0.880899	0.880899	0.880899	0.880899	0.880899	0.880899
Aquaporin-3 (AQP3)	1.2247405	0.978438	0.9773159	0.90425	0.9489385	0.82420945	0.8241132	0.8241132	0.8241132	0.8241132	0.8241132	0.8241132	0.8241132
Myelin basic protein	0.5287744	1.284345	0.8324408	1.0998855	0.7845069	1.4759141	0.9907461	0.9907461	0.9907461	0.9907461	0.9907461	0.9907461	0.9907461
Calgranulin B3	1.0560441	1.0093895	1.0819203	1.0424808	0.8578894	0.7895257	0.77740043	0.77740043	0.77740043	0.77740043	0.77740043	0.77740043	0.77740043

Table 30

Phase-1 RCT-158	0.65859467	1.0828391	1.0685302	1.0723513	1.3484487	1.0235306	0.88453835	0.87204933	0.8875014	1.1133417	1.0174173	0.90078086	0.88498644
Protease activator 28 alpha	0.618495	0.78407735	1.1190889	1.2058716	1.3153763	0.9631065	0.8698329	0.7979817	1.6861598	1.3120775	1.1978228	1.0953321	1.3367199
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 h: yes=ncr; necrosis observed; yes+both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 28)													

Table 30

Table 30. Expression Data for 72 Hour Timepoint
(1)

Phase-1 RCT-68	1.0762966	1.0083302	1.0406938	0.8983761	1.0374647	1	1.0065248	0.9807117	2.6457624	1.0487605	1.0038353	1.4898045
Cyclin G	0.99610716	1.0521741	1.1194372	1.1418734	1.0366777	1.0384179	1.0910413	1.0118441	5.842379	1.0132793	1.0132793	1.7431148
Hypoxanthine-guanine phosphoribosyltransferase	0.7851612	0.86514	0.8000345	1.0818974	0.8088522	0.72470764	0.77780473	0.92653954	1.785463	1.0269508	0.870857	1.9589052
Tissue inhibitor of metalloproteinase-1	0.970462	1.2834998	1.020465	1.6028903	1.4195144	1.006176	1.0373539	1.0328678	3.5175695	0.8418823	0.90762965	1.4098851
ID-1	1.1467612	1.0654523	1.0956721	1.4422618	1.2196352	0.9340094	0.92043946	0.97566994	1.0147752	1.024542	1.0992246	2.3970327
Ribosomal protein S9	1.2477724	0.93735534	0.588662	0.8926329	0.97400328	1.0420064	1.0178902	0.9620038	0.9201094	0.95143974	0.87618816	1.6674106
Heme oxygenase	1.2008441	0.9526167	1.7444853	1.0236734	0.95993143	1.1038268	0.98215634	1.4259804	0.9105214	0.892728	0.8316708	2.1185217
Ribosomal protein S8	1.8202798	1.9830017	1.4413904	1.0485459	1.055948	1.055948	1.1329763	1.0218043	2.8828014	1.510716	1.1729922	1.2650287
Ribosomal protein S17	1.1531808	1.7718953	1.4940748	0.9610105	0.93107	1.08841	1.2139524	1.1338438	0.9533918	1.354183	1.1534333	1.4748956
Nucleoside diphosphate kinase beta isoform	1.1039891	3.619473	1.1468964	1.2287678	0.9819934	0.7904837	0.7842484	1.0012261	1.0170344	1.534274	0.9441694	1.0231937
Phase-1 RCT-121	0.95395845	0.9719207	0.9880464	1.2320987	0.83416945	1.4746771	0.9411131	1.012337	0.8988782	0.4027247	0.8713294	0.95882408
14-3-3 zeta	1.0840305	1.0240328	1.069444	0.74442375	0.577791	0.81506044	0.8570824	1.006263	1.1107837	3.1627436	1.1330043	1.980126
60S ribosomal protein L6 (alternate clone 1)	1.5310894	1.519074	1.2920554	0.9533896	0.7575327	0.964162	1.1205339	1.0460286	1.0043225	2.861291	1.090688	1.2038206
Beta-tubulin, class I	1.214839	1.1179895	1.0411278	0.8327178	0.8370407	0.7356633	0.95041748	0.73966294	3.4324992	0.9557724	1.1232888	6.9428236
Organic cation transporter 3	1.0855058	1.0956348	1.0445176	0.99805473	0.85874488	0.90203476	1.1487874	1.0349285	1.0532159	2.3108387	1.279594	1.2903509
Beta-actin	0.9357421	0.8470655	0.9997987	0.90323697	0.13116154	0.84941834	0.97068325	0.61449885	0.8459007	4.842202	0.5492648	1.0294207
Cathepsin S	1.0099002	1.0033351	0.81734635	0.81013995	0.69289215	0.7541388	1.0305607	0.9008671	3.3119197	0.8328223	1.0188015	1.22348
Biliverdin reductase	1.80056	1.0320088	0.94321644	0.869805	0.9387116	1.2152891	0.84095808	0.97235345	1.0531625	2.3091648	0.97679	1.569882
Phase-1 RCT-154	0.9997704	1.0661602	0.94161913	0.94405323	0.91478564	1.0487375	0.922268	0.9511278	0.98280015	5.1616063	1.828655	1.2494447
Phase-1 RCT-293	1.187835	1.2611177	1.048855	1.2020025	1.001201	0.86381344	0.97854744	0.9179707	1.0324267	0.45342705	0.9803152	1.5456666
Anaxin V	1.2911431	1.2514539	1.1848403	0.9036911	0.88121724	1.0095917	1.1367848	1.1267917	0.96633905	3.7135287	1.1681894	1.0432401
Complement factor I (Cfi)	1.6159724	1.0739849	1.2343618	0.80888706	1.1568853	1.02026393	1.1868652	1.2137042	0.9942896	0.73273575	1.7965087	1.978239
Phase-1 RCT-276	1.280014	1.0403447	1.1712811	0.55859973	0.808551	0.8034075	1.0117321	0.7399119	0.85790074	0.6355248	1.011818	0.42980314
Tyrosine aminotransferase	1.8312124	1.9817472	1.1677318	0.8332087	1.098237	0.976845	0.931147	1.064845	0.8743975	0.92748374	1.0210332	1.207072
Glutathione peroxidase	1.1163634	1.3905463	1.1022712	0.4685422	0.78089613	0.9734658	0.8902776	0.8888618	1.2042095	1.38092233	1.0720653	1.0597347
Vitelline-rich glycoprotein	1.0508136	1.1983289	1.0291069	0.921969	0.6292457	0.73588784	0.9586776	0.8303395	1.17829	0.10097827	1.034037	0.46586537
Carbonic anhydrase III, sequence 2	1.0218898	1.0426512	1.0419922	0.48422742	0.8375349	0.5924706	1.0003986	0.831406	0.2294458	1.1556009	1.0307105	0.51761834
Phase-1 RCT-92	1.0406672	1.014795	0.9807373	0.97111535	1.3344938	1.1284313	1.0395343	1.0285169	1.2542001	1.1516599	1.0644334	0.94983226
Transitional endoplasmic reticulum ATPase	1.0070294	1.145771	0.9041488	0.8332452	0.66381767	0.8784359	0.9834963	1.1551417	0.702411	0.8698943	0.9533603	0.8369214
Phase-1 RCT-286	1.341506	1.0392858	1.1568509	1.1514672	1.1857159	1.2025479	1.22287	1.1370386	1.0042018	0.21422482	1.1340615	1.1557175
Phase-1 RCT-161	0.8945238	0.9459911	1.0371429	1.232537	1.1710439	0.9373727	1.070609	1.0294955	1.0598724	0.38803856	1.7075294	0.82842517
Glutathione S-transferase theta-1	1.3034891	0.9414649	0.87573608	0.98316374	0.9270577	1.0920354	1.0981102	1.0588845	0.974996	0.8331312	1.2043787	1.0252804
Phase-1 RCT-168	1.0755368	0.8959928	0.93478954	0.8774451	1.1159157	1.145179	0.9201266	0.8606621	0.9170584	0.4738465	1.11354	1.0888201
Phase-1 RCT-182	1.3942904	1.2155087	1.2161027	0.8278257	1.401577	0.96124095	1.0498518	1.1569117	1.0131623	0.33915165	1.111659	0.95847076
JNK1 stress activated protein kinase	0.8637426	0.92720026	0.9620226	0.5027485	0.6040309	0.5702724	0.9469242	0.77318877	0.8302982	0.65644028	0.8408044	1.0185837
Phase-1 RCT-81	1.7022539	1.2768817	1.1115655	1.05873	1.0900852	1.0265693	1.083904	1.069008	0.9835644	1.1211524	0.925862	1.0240374
Phase-1 RCT-33	0.9874969	1.0424186	1.2659005	0.78948718	0.82588685	0.9451405	0.9286394	0.78413238	0.8138803	0.25851768	1.368556	1.183465
Phase-1 RCT-178	0.8819389	0.9135572	1.099393	0.8886736	1.2428338	0.9960977	1.179924	1.0399135	1.5964214	0.89907374	0.9189644	0.9101871
Apolipoprotein CIII	1.3195881	1.0736172	0.8787478	0.5240913	1.0778145	0.94840634	0.8871593	1.0068559	0.506379	0.93527626	0.8850537	0.33825168
Phase-1 RCT-98	0.9155554	1.0280149	1.0432065	1.0080822	1.0190796	0.8087404	0.94870704	0.9337544	0.8911132	0.65898614	0.98997235	1.0200289
NADH-cytochrome b5 reductase	1.2668683	1.3654342	1.2064373	0.81232508	1.069842	0.8957685	0.90889687	0.74767566	0.7203413	0.39180314	0.91461874	0.8935517
Alpha 1 - inhibitor III	1.7462549	0.88843834	0.73198915	0.8669884	1.8370055	0.87756014	1.31717	1.2047548	0.8514047	0.07124573	1.1039336	0.94540857
Phase-1 RCT-233	0.8654237	0.9822013	0.9847973	0.75822395	1.312935	0.87603545	1.027953	0.94552547	0.967144	0.2767272	1.3157395	1.0436983
Paraoxonase 1	1.8155411	1.2211512	1.1625702	0.60699756	1.0078434	0.7096661	1.2592832	1.1042775	0.928671	0.16703795	1.4374983	1.1509929
Presenilin-1	1.825678	0.9302051	0.79453593	0.79698865	1.713635	0.8057866	1.3594123	1.222877	0.80358946	0.1590457	1.140016	1.003872
Apolipoprotein C1	1.386585	1.1346854	1.2577755	0.7841084	1.1396707	0.86545885	0.93807054	0.9246763	0.8156323	0.1034347	1.0678221	0.6128926
Cytochrome P450 2C23	1.2585053	0.8939285	0.91238314	0.49302778	0.892747	0.68618966	0.72105904	1.0147828	0.8343553	0.20449264	1.099017	0.91267884
Phase-1 RCT-227	1.2574508	0.8773043	0.94888844	0.47461703	0.72832	0.6952824	1.0245901	0.94749254	1.129816	1.209516	0.95743835	0.37035058
Hepatic lipase	1.2112694	0.98546356	0.8918173	0.73284324	0.73554003	1.0971093	1.038816	1.0109447	0.8613547	0.969932	1.1085912	1.1595912
Phase-1 RCT-164	1.0104914	0.85162207	0.9483818	1.3517094	1.038816	1.0109447	1.2071443	1.2934826	1.2371712	0.30546223	0.9625526	1.1341027
Multidrug resistant protein-2	1.350017	1.1653787	1.1561671	1.0118983	0.8626233	0.93672474	0.8613547	1.0394826	1.2371712	0.30546223	0.9625526	1.1341027
Insulin-like growth factor I, exon 6	0.90792394	0.9984739	1.3058537	1.154781	1.0983737	1.385956	1.0653453	1.0690972	1.160313	0.2431111	1.2470008	1.0872883
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	0.93333334	0.9796803	0.95522059	0.80040345	0.87273636	0.6543506	1.0620472	1.1327052	0.935708	0.14751408	1.174153	0.7940873
Dynamin-1 (D100)	0.9105951	0.9822013	1.0236951	1.0144553	1.1476438	0.9367628	1.064125	1.034231	1.023758	0.84358846	0.99490108	0.9873377
DNA polymerase beta	0.8739393	0.9756229	0.9919983	1.0021547	1.0895666	0.72944204	1.0802971	1.0476221	1.5582727	1.1028605	0.990288	1.1696616

Table 30

Phase-1 RCT-173	0.95165336	0.9716809	0.90670294	1.0700729	0.7674911	1.122707	1.0032647	0.8746993	0.90346014	1.8045489	0.86033444	1.055568	1.1845395
Ubiquitin conjugating enzyme (RAD 6 homologue)	0.96017855	0.868468	0.89355726	1.0781785	0.8898912	1.0402838	0.9699254	1.1419804	1.0407068	1.8117871	1.3771887	1.020104	1.5829968
Ribosomal protein L13A	0.7612542	1.2404103	0.9910806	1.0774543	0.47414928	1.3884991	0.86920146	0.7492341	0.91084124	1.5971133	0.6950438	0.85711434	1.4593931
Phase-1 RCT-144	0.96970036	1.0231075	1.0178006	1.153113	1.284808	1.1830295	0.84347733	0.8473355	0.9873355	2.0800698	0.6634991	1.0041808	1.6237742
C-Hra	0.9406255	0.940812	0.9847973	1.064825	0.7538216	0.7084332	0.8366082	0.8871718	0.9325152	1.2325865	1.1382033	0.9623399	1.4890088
Vesicular monoamine transporter (VMAT)	1.0486558	0.99715423	1.0182433	1.181175	1.3810234	1.2317607	1.1759579	1.111838	1.0872504	0.8729828	0.8712503	0.9680287	0.8468857
Phase-1 RCT-273	0.89146197	0.9411568	0.9494047	1.268487	1.1856071	1.1573573	1.0428314	1.0341088	1.0341088	1.2681393	0.8485072	1.016222	0.9918695
Phase-1 RCT-230	0.887592	0.9862012	0.9952841	1.4278322	0.9798917	1.3452677	0.9818298	1.0318762	0.9460511	1.3248706	0.8718979	0.9355146	1.1555778
Phase-1 RCT-74	0.88121684	0.9868673	0.96484375	1.4639368	1.2601414	1.0943466	0.818319	0.9846434	1.0281908	0.9033573	0.8820393	0.92751735	1.1065714
Phase-1 RCT-40	0.9913371	0.9517279	0.9415761	1.5644755	1.322105	1.1771072	0.955523	0.955523	1.0844916	1.0716526	0.8223889	0.9080773	1.0803314
Phase-1 RCT-168	0.9462369	1.008764	1.0390225	1.2152017	1.10442	1.1017667	0.76040876	1.0350635	1.124908	4.2410417	0.925718	0.9721186	0.8731761
Deoxyxylidase kinase	1.0135449	0.97121628	1.0226069	1.4029988	1.231803	1.1288147	1.0412738	1.1222107	0.9574661	0.8312884	0.9809598	1.0280246	1.0884027
Inositol polyphosphate multikinase (Ipmk)	0.9206704	0.8286598	0.9739564	1.3925751	1.1180486	1.0721982	1.088673	1.0625214	1.1869211	0.8873097	0.90912575	0.9530264	0.89189584
Neuronal cell adhesion molecule (NCAM)	0.95500404	0.9021306	0.95746076	1.7084793	1.3488778	1.3623383	1.068824	1.034085	1.0554141	1.1349478	0.9194671	1.0204276	0.81104948
Hepatocyte growth factor receptor	0.828281	0.963258	0.81341577	1.485481	1.1035609	1.1770966	0.80671537	1.0682958	1.1068482	1.1636546	0.8510517	1.0339537	1.0728962
Emg	0.8686138	0.83966603	0.9594843	1.24748	1.0794231	1.7040884	0.9115808	0.977351	1.074259	0.8577579	0.73894565	0.7877894	1.129207
Dopamine receptor D2	1.1332144	1.087184	1.0668121	1.2894506	1.3147619	1.1041809	1.1351886	1.0758246	1.0476219	1.5507066	0.8609612	1.073375	0.83362564
Phase-1 RCT-51	0.9498688	1.0109738	1.0139664	1.3345854	1.0950722	1.1038111	1.0231339	0.98694246	1.0034262	1.0531255	0.8705174	0.8963374	0.8170161
Four repeat ion channel	0.8895088	0.9800785	1.0209581	1.2961256	1.1976653	1.0787414	0.9007571	0.89352455	1.0078374	0.9071884	0.8231532	0.9485195	1.1072846
Adrenomedullin	0.87814643	1.0365272	1.0294312	1.787134	1.3390905	1.8316447	1.0403446	1.0000163	0.9913239	0.7731336	1.1572193	1.0625817	1.0914279
Caveolin-3	0.88523555	0.9585362	0.96168154	1.2989674	1.096428	1.1072905	0.91008747	0.99904203	1.0666497	0.8368977	0.8993797	0.9789458	1.0974325
Phase-1 RCT-129	0.8937838	0.9056168	0.97660256	1.3867991	1.2180859	1.002212	0.88907085	0.9947053	1.0703158	1.0486048	0.8860694	0.96820176	1.1709007
Phase-1 RCT-44	0.77885914	0.9662012	1.0472383	1.0164967	0.9553307	1.0529348	0.7398597	1.0046676	1.0284792	0.9069045	0.8688324	0.9327534	1.1502681
Sarcolemmal calcium calcium ATPase	0.75847185	0.98769754	1.0726141	1.0868808	1.1384501	1.0187454	1.0103384	0.9826551	0.9158528	0.97828746	0.80780854	1.0058108	0.774247
Phase-1 RCT-79	0.851306	0.9808025	0.9801282	1.2328844	1.0347838	1.1844233	1.0171131	0.9596023	0.9428355	1.0025806	0.8488557	0.9030903	0.8948855
Phase-1 RCT-252	0.9926504	0.9124808	1.0185717	1.34081054	0.9959075	0.48684322	1.0487982	0.9637743	0.92307204	1.1332877	0.91882175	1.0811229	0.89776084
Phase-1 RCT-151	1.2927412	0.939437	0.96043116	0.71686335	0.85737324	0.985237	0.9594593	0.86979765	0.91827576	0.8733366	1.0947278	1.0370647	0.76060284
Phase-1 RCT-70	0.7876743	0.9120441	1.0383821	1.0414852	0.9081478	0.7635987	0.8715952	1.0527443	1.2310932	0.91735166	0.9943062	0.9002086	0.9002086
Phase-1 RCT-150	1.0392673	0.65140426	0.8251092	0.75426245	0.5834186	0.870313	0.8814271	0.78876786	0.9602188	0.60746948	0.8913882	0.95831066	0.6984111
25-hydroxyvitamin D3-1 alpha-hydroxylase	1.0126282	1.0451218	0.9484954	1.3642776	1.259116	0.83515835	1.0015937	1.095757	1.117689	0.85490844	1.0176842	1.1165375	0.8549084
Phase-1 RCT-119	0.9359882	0.9344888	0.9789737	0.98919304	0.83278	0.9507298	1.1329554	1.0548764	0.86397483	0.9105933	1.00114	1.0818758	0.7546664
Peroxisomal 3-oxoacyl-CoA thiolase 2	0.80576205	0.7265287	0.65550168	0.84562224	0.73717268	0.9359862	0.86041533	0.8454504	1.0732415	0.5894483	0.85315883	1.0904627	0.87621195
Phase-1 RCT-146	0.6164774	0.9609233	1.0642656	1.2048298	0.996079	1.131492	0.8203827	0.8870198	1.0537322	1.3502303	0.97946725	1.0101681	2.546177
Superoxide dismutase Mn	1.0990644	0.91487277	0.69050217	0.6731976	0.89450223	1.0672711	0.991136	1.054601	1.9683182	0.8576519	0.9697692	1.1260387	1.1443897
Phase-1 RCT-115	0.61067706	0.8475915	0.8801274	1.3924412	1.021683	0.8034125	0.79630697	0.9152682	0.8337683	1.1357371	0.91542873	0.9528876	1.1443897
Alpha-1 microglobulin precursor (Amp)	2.037857	1.2878493	1.0719204	0.90936154	1.0852538	0.95716834	1.0485048	1.036838	0.807788	0.25738684	1.3825171	1.040016	0.36688413
Phase-1 RCT-18	0.91858724	0.98824387	0.97226334	1.2089298	1.186526	1.0840464	0.9211856	1.0574085	1.0320691	0.9533084	0.9412476	0.953548	1.0784921
Masspin	0.78846358	0.9857278	0.98625854	1.8884578	1.2804146	1.2873844	1.0953554	1.024117	1.0377299	0.8513475	1.046587	1.0254612	0.91785355
Decorin	0.906377	0.9349268	0.88214287	1.3085046	1.0649774	1.0578428	0.9939834	0.8943721	0.8762072	0.832612	0.89434685	0.99949787	0.9587497
Retinoid X receptor alpha	0.7887783	0.97829159	1.0189103	1.5880176	1.174686	1.174737	1.0683852	1.1163865	1.1113155	1.195314	0.86887255	1.1269948	1.2816828
Cellular nucleic acid binding protein (CNBP)	0.9340392	1.0724539	1.207162	0.7602858	0.4625703	0.8822683	0.96162796	0.9690078	0.95437056	1.0533698	1.1605233	0.9758877	0.8101385
NADPH cytochrome P450 oxidoreductase	0.84047323	0.77253869	1.0178517	1.4135842	0.91977068	0.9522435	0.81730705	0.9270915	1.019791	1.3213611	0.87291646	1.028517	1.672433
Malic enzyme	1.0451857	0.980789	1.0589178	0.98937845	1.0353738	0.93982485	1.1251744	1.0721167	1.117616	0.6056124	1.483661	1.2589788	1.0458084
Caspase 1	0.758474	0.94273716	0.9881185	1.8084683	1.288577	1.2347895	0.8208087	1.0014759	1.0324082	2.414473	1.0320374	0.97888005	1.012462
Cystatin C	1.5483481	1.1487845	1.0577943	1.0357397	1.2965428	1.2420752	1.3571491	1.121083	1.034598	2.4716213	1.0397563	0.96267503	0.8599725
p55CDC	1.0986887	1.163442	1.1482329	1.2779105	1.132794	1.2728814	0.987465	1.0401802	1.0425576	0.8230972	1.0672808	1.0325162	0.9872005
Poly(ADP-ribose) polymerase	1.0727978	0.8901122	0.8488996	0.86677736	0.85369223	1.0932785	1.0088418	0.8888649	1.1209389	1.8375245	0.9698912	1.0564771	1.6234771
Tissue plasminogen activator	0.6317702	0.97192407	1.0090725	1.0530041	0.98183496	0.8913523	0.80402283	0.9540728	0.9459493	2.1652813	0.98751804	0.9546615	1.5977608
Multidrug resistant protein-1	1.3331015	1.182388	1.1844878	1.034088	0.95053756	0.9092104	1.3494302	1.2654148	1.2581107	4.341684	1.4502778	1.2420723	0.848787
Phase-1 RCT-207	0.950687	0.9676954	0.9742462	1.0335116	0.94308944	1.0022372	0.689974	0.8670589	0.8824671	4.8788175	1.9436635	1.3676472	1.5422455
Phase-1 RCT-181	1.0177331	1.0119747	0.98874667	1.2686276	1.0055617	1.2039629	0.8837502	0.8973816	0.6523249	0.8822088	0.6523249	1.0749156	0.856751
Gap junction membrane channel protein beta 1 (Gib1)	0.6486518	0.7488701	1.2057523	2.0766688	1.0047126	1.9012182	0.5987248	0.8350858	1.1767844	0.39395824	0.6228019	0.9490517	0.6242424
Aquaporin-3 (AQP3)	0.9224774	0.9893837	0.9996408	0.9209801	1.0895181	1.0166855	0.8384621	0.897264544	0.8900801	0.78524446	0.9437774	1.047214	1.047214
Myelin basic protein	1.0551894	0.7821787	1.0171395	1.884742	1.3651912	1.584772	1.1814052	1.1814052	1.5901539	1.4924711	0.9804694	0.97324928	1.4208928
Calgranulin B3	1.0496648	1.0244253	0.9440789	0.8663518	0.71728505	1.0241955	0.84213458	0.87350196	0.8781803	1.4811111	1.0884368	1.101483	1.0350868

Table 30

Phase-I RCT-156	1.1267285	1.1028656	1.0214286	1.0982322	1.1043661	1.487789	0.862923	1.0271647	0.88272107	1.523145	1.0180891	1.0384649	1.4186278
Protease activator 28 alpha	1.1836909	1.4390863	0.8872422	0.6872541	0.8903173	0.7594857	1.131025	1.1390483	0.8726628	1.3028668	1.0580425	0.90334904	1.0283198
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1.													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 h: yes=necr, necrosis observed; yes=both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive gene (as in Table 23 and as included in Table 26)													

Table 30. Expression Data for 72 Hour Timepoint															
Compound/Dose (2)	ANIT 60	ANIT 60	BRB 200	BRB 200	BRB 200	BRB 200	BRB 200	BRB 200	BRB 200	BRB 200	BRB 200	BRB 200	BRB 200	BRB 200	BRB 200
Animal Number (3)	1658	1659	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339
Liver toxicity inflammation Classification (4)	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both	yes-both
Gene Name (5)	1658	1659	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339
Phase-1 RCT-107	0.6111182	1.1908957	0.7277622	0.6231828	0.5761005	0.6854237	0.5958028	0.6489587	0.4859366	0.37590236	0.7235594	0.9711843	0.82333183	0.82333183	0.82333183
Betaine homocysteine methyltransferase (BHMT)	0.18586334	1.3524156	0.5633477	1.2205142	0.4922842	1.063364	0.6336108	0.38500582	0.3718583	0.29023176	0.623182	0.16584021	0.15931389	0.15931389	0.15931389
Proliferating cell nuclear antigen gene	5.3165308	0.8065268	0.80817905	0.9406393	0.89201066	1.2327284	1.34810761	1.2727861	1.2727861	1.2727861	1.2727861	1.2727861	1.2727861	1.2727861	1.2727861
Cytochrome P450 2D6	0.42454416	0.84024145	1.3248473	1.1307435	0.8324607	0.77574515	0.9578324	0.68406165	0.48434813	0.34715744	0.5960886	0.3934356	0.60272014	0.60272014	0.60272014
Cytochrome P450 2C11	0.53008085	1.2283792	0.6804473	0.8808078	1.3836515	0.6950423	0.5908424	0.571104	0.4571546	0.12238744	0.12238744	0.07283183	0.07283183	0.07283183	0.07283183
Phase-1 RCT-290	2.1689281	1.2811227	0.75969005	0.76155095	0.97653984	0.8472126	1.233338	0.65212554	0.5446998	0.4113167	0.38973593	0.7247486	0.40415227	0.40415227	0.40415227
Beta-actin, sequence 2	2.001358	0.6772548	1.1027727	1.8711132	1.228667	1.828662	2.635596	3.1734038	1.6233562	0.8373303	0.8113369	2.7363934	3.0250222	3.0250222	3.0250222
Pyruvate kinase, muscle	2.500338	1.0397152	0.9158338	0.7818847	0.8858644	0.8541767	0.8100044	0.8373303	0.8093367	0.8462255	0.8163309	1.0951755	2.584273	2.584273	2.584273
Oxidoreductase	5.9562383	1.1075405	1.3203823	1.4429157	1.289582	1.3393977	2.6246877	1.6411086	1.6721833	1.3151839	5.7198767	1.5948151	0.86878026	0.86878026	0.86878026
Calgranulin B1	2.518016	0.9566983	0.80063486	1.3717129	1.5890095	1.6901641	1.8079444	1.9827275	1.7762886	5.5573606	5.130468	9.442778	3.1861467	3.1861467	3.1861467
Apolipoprotein AII	0.33556	0.70810336	0.35120484	0.65142875	0.26405522	0.58141865	0.51879334	0.42704096	0.22365208	0.2851685	0.2509521	0.08616205	0.28289163	0.28289163	0.28289163
Cometxin-32	0.3901846	1.2037811	1.0744354	1.1024631	0.9486884	0.8672831	1.0455336	0.7840789	0.7519987	1.4311703	1.1656619	1.6528914	1.5791022	1.5791022	1.5791022
Phase-1 RCT-109	1.634832	1.151125	1.0778913	1.5905846	0.7589592	0.7751783	0.4650177	0.73881095	0.7816694	0.63282484	0.5933485	0.9738052	0.40590802	0.40590802	0.40590802
Glycine methyltransferase	0.15111707	1.1584136	1.0737413	0.7855302	0.42578015	0.644453	0.53874686	0.37686216	0.23081078	0.16511888	0.490459	0.30173972	0.59310503	0.59310503	0.59310503
L-tyrosine-gamma-hydroxylase	0.65118494	0.7711136	0.7737544	0.87558985	0.993923	1.026721	0.8509245	0.48032296	0.752503	0.8372455	0.83942187	0.22415784	0.2959485	0.2959485	0.2959485
Phase-1 RCT-256	0.5793061	0.6359926	0.77108184	1.1468303	0.9210528	1.0259966	1.0836282	0.83286275	0.8677345	0.840338	0.8701897	0.38847592	0.62077	0.62077	0.62077
Carbonic anhydrase III	0.032598443	0.24657686	0.8133648	0.603561	0.5134661	0.46916988	0.68845855	0.2891845	0.48398885	0.63282484	0.5933485	0.9738052	0.40590802	0.40590802	0.40590802
Phase-1 RCT-78	0.6992037	1	0.6580538	0.7589592	0.7751783	0.4650177	0.73881095	0.7816694	0.63282484	0.5933485	0.9738052	0.40590802	0.40590802	0.40590802	0.40590802
Urinary protein 2 precursor	0.24414388	0.6336075	0.7487454	1.1987864	0.86198595	0.6624868	0.8373012	0.62731713	0.15231683	0.20628011	0.31832525	0.25803316	0.41033908	0.41033908	0.41033908
Insulin-like growth factor 1	0.310505	0.49112694	0.74172487	0.9949688	0.77378905	0.72845386	0.72488755	0.4833642	0.4339331	0.47493866	0.47005144	0.25803316	0.41033908	0.41033908	0.41033908
AYF sulfotransferase	0.53343804	0.708731	0.88171606	0.99126813	0.6305057	0.7534732	0.77503973	0.48465106	0.6360256	0.6222702	0.7190618	0.39598537	0.48968372	0.48968372	0.48968372
Phase-1 RCT-185	1.0642874	0.63551986	0.8770781	1.087085	1.0081334	0.70196486	0.9038739	0.51039106	0.50034314	0.4633684	0.7767023	0.4300488	0.6848326	0.6848326	0.6848326
Cotilin	2.279488	1.0114901	1.4748895	2.1457068	2.6273787	2.1145723	3.01397	3.708798	1.2444068	1.486486	1.823317	2.2239563	1.5262068	1.5262068	1.5262068
Safrin	2.7410111	1.0045274	1.1402411	2.3607128	2.677854	2.6900482	1.7908988	2.7680163	1.7461784	2.22267	1.868753	2.67953	2.028919	2.028919	2.028919
60S ribosomal protein L6	1.6374292	0.9639581	1.284749	1.8066337	1.818548	1.5489585	2.5576722	2.8756253	1.8391575	1.9380125	1.957168	1.84379	1.493431	1.493431	1.493431
Calpain I heavy chain	3.448338	1.147871	1.065882	1.834358	2.4311116	1.853005	2.5659468	3.5943158	2.6078828	1.7688921	1.7688921	1.576884	2.4033005	2.4033005	2.4033005
Collagen type II	1.164858	1.3440894	1.4732435	2.2941186	1.9587738	1.62186325	1.3447884	1.7478692	2.5078828	1.642111	1.8782013	2.157884	1.204181	1.204181	1.204181
Phase-1 RCT-179	1.540269	0.94634783	1.0639997	1.6289447	1.9587738	1.62186325	1.3447884	1.7478692	2.5078828	1.642111	1.8782013	2.157884	1.204181	1.204181	1.204181
Voltage-dependent anion channel 2 (Vdac2)	1.8926688	0.8767533	1.412557	2.0661442	2.4332884	2.1740801	2.5925894	3.402854	2.4873388	2.5078828	1.828508	1.8207209	1.5489115	1.5489115	1.5489115
Phase-1 RCT-192	1.5076654	1.4003087	1.2847108	1.451277	2.88575	1.61397	2.4729211	2.4745862	2.8850422	2.5080056	1.4288508	1.8207209	1.5489115	1.5489115	1.5489115
Adenine nucleotide translocator 1	1.6169317	1.0412413	1.2892234	1.3214592	1.4810405	1.4053314	1.4787759	1.818858	1.138911	1.3874444	1.0846702	1.0846702	0.9469777	0.9469777	0.9469777
Thymosin beta-10	3.6569297	1.0618172	1.7708431	3.3040884	3.8144536	2.9910321	2.3344657	4.4739165	1.7524588	1.7682533	1.3400304	4.0785317	2.4082778	2.4082778	2.4082778
High affinity IgE receptor gamma chain (FcERgamma)	1.7143895	1.9512392	1.3281559	1.4440914	1.9006971	1.7916274	2.033609	2.571395	1.4901124	1.7922894	1.4884341	2.876352	1.5395492	1.5395492	1.5395492
Gamma-actin, cytoplasmic	3.08777373	0.8200279	0.9215995	1.9852321	2.8552138	1.6954335	3.8883225	4.009283	2.1523516	1.6228893	1.0627815	2.5131214	1.7387823	1.7387823	1.7387823
Uncoupling protein 2	2.916121	1.1284462	1.4128846	1.7535679	2.5118882	1.9007322	1.8812453	2.6750073	2.0523228	2.3215685	1.6471884	4.83378	2.4350781	2.4350781	2.4350781
Phase-1 RCT-34	1.0849258	0.8337413	0.7601743	1.9574248	1.0840099	1.3758922	1.9716488	1.9915043	1.5738037	1.450376	1.0520015	0.97870845	1.4205414	1.4205414	1.4205414
Phase-1 RCT-31	0.50426668	0.89442326	1.83173	1.694068	1.5978005	1.478129	1.8976943	1.248938	0.9908515	1.0422833	1.196149	0.7487821	0.9544484	0.9544484	0.9544484
Oxyl D1	6.8928487	0.808712	1.080938	1.1724641	1.2697258	1.5671031	1.241705	3.0850465	2.4038522	2.7915821	1.8189335	2.126251	1.5951105	1.5951105	1.5951105
IgE binding protein	4.100785	0.9984356	1.4015443	2.0311606	3.1680524	2.0825603	3.3272195	7.3242702	2.9845843	2.703304	1.6547767	1.8189335	2.3673766	2.3673766	2.3673766
Zinc finger protein	2.6789488	2.2509618	0.9535018	1.0057323	0.8653457	0.8635393	0.8843341	1.5188821	0.9843267	1.0974267	1.0319548	1.7510642	1.2373544	1.2373544	1.2373544
Phase-1 RCT-138	1.4357718	0.86902523	1.4207789	1.5587143	1.883028	1.6988415	2.1085779	2.28388	1.8288088	1.8086104	1.4304013	2.4232948	1.4247289	1.4247289	1.4247289
Alpha-tubulin	5.144883	1.1158095	0.7604177	2.305954	2.4801142	1.9489445	2.6189246	3.593393	2.284918	2.1531685	1.0031354	3.6848728	3.065657	3.065657	3.065657
Alpha-prothymosin	1.5442423	0.86785368	1.481184	2.5005555	0.959401	1.8918374	2.8106075	3.0613465	1.2786278	1.542761	1.1132011	1.8180588	1.4252074	1.4252074	1.4252074
Calpain 2	1.7618228	0.9788885	0.937571	1.0503634	1.3378524	1.6933462	1.1883357	1.5412448	1.39630921	1.4446853	1.1670428	1.8930181	1.347475	1.347475	1.347475
Phase-1 RCT-12	1.5306286	1.0474133	1.2127181	1.053487	1.7814792	1.6303482	2.1883473	1.8576539	1.9081862	1.7586933	1.2482727	2.1945708	2.014765	2.014765	2.014765
Cathepsin B	1.5578241	1.1710387	1.4823563	1.7322345	1.7976509	1.862167	2.365205	2.6558904	1.628554	1.9377813	1.6620054	1.7232041	1.2383876	1.2383876	1.2383876
Phase-1 RCT-24	1.4239465	1.1332122	0.76863044	1.9745862	2.4987068	2.022376	2.363205	4.947813	1.50813	2.8398728	2.2371125	0.8268476	2.949472	2.949472	2.949472
Melanoma-associated antigen ME491	2.6273792	1.2038822	1.0846888	1.0906752	2.025034	1.627342	1.9388548	1.9230475	2.8335657	2.392389	1.8273805	3.0472207	2.870185	2.870185	2.870185

Table 30

Phase-1 RCT-68	1.848698	0.98630377	0.8594756	1.2058326	1.2584042	1.3107048	1.3276114	1.3582137	1.2788647	2.2189702	1.5083691
Cyclin G	2.602404	0.94227537	0.822801	1.0264305	1.2476336	0.9808189	0.7112559	1.696552	1.8915764	1.3955551	3.7675575
Hypoxanthine-quantine phosphoribosyltransferase	1.6787766	1.0457658	1.0172098	1.3020821	1.8090909	1.693081	1.9576074	1.2745352	1.4189752	1.4355082	1.4084204
Tissue inhibitor of metalloproteinases-1	1.9978997	1.2665808	1.2583687	1.2432323	1.5683984	1.2128288	0.91675586	1.7800725	2.0878556	1.4620081	4.641523
ID-1	2.8517833	1.2235331	1.212875	1.1349261	1.2350013	0.87236377	1.1588557	2.0393069	1.1698903	1.1278438	1.4886098
Ribosomal protein S9	1.7230276	0.8471644	1.1485628	1.7010472	1.8365332	1.8691975	1.6665059	2.45391	1.5533175	1.2107191	1.7730641
Heme oxygenase	2.098342	3.049258	1.9783003	1.7488586	2.5352668	1.6420211	2.666611	2.9055958	2.6257865	2.5839433	5.4685883
Ribosomal protein S8	1.5453748	0.8142063	1.54534	2.1811929	2.391112	2.0316868	3.622021	3.288958	2.690017	2.188103	1.473767
Ribosomal protein S17	1.5418987	0.7668951	1.3901822	1.068574	2.7620268	1.8467163	2.7897778	3.1437125	1.9383855	2.188354	1.3928348
Nucleoside diphosphate kinase beta isoform	1.1468763	1.1007187	1.2472758	1.3489853	2.7568554	1.2120007	2.5074402	2.7934353	2.3024597	2.0810084	2.1338427
Phase-1 RCT-121	1.9514631	1.0905589	1.272791	1.4043166	1.4291171	1.2234452	2.0220513	1.4909078	1.8977509	1.3706587	3.2025065
14-3-3 zeta	2.4728498	1.155319	1.4307758	1.3687712	2.007074	1.73007416	1.8510872	2.869237	1.881878	1.8765298	2.543768
60S ribosomal protein L6 (alternate clone 1)	1.4534042	0.8429734	1.4302766	2.0540235	2.8685955	2.8680484	2.986326	1.5743522	1.5814978	1.6835623	3.7684325
Beta-tubulin, class I	7.5364776	1.048628	1.0018606	1.0820467	3.307776	3.0904756	4.762975	6.199554	2.4194784	1.259892	3.7684325
Organic cation transporter 3	1.5530481	0.863211	1.0441613	1.0820467	1.5868146	1.0687105	1.6903396	1.8326881	1.5646762	1.8374114	1.181203
Actin	1.9209703	0.84851015	1	1.8412498	2.7554574	2.2243008	2.7534175	3.9160047	2.007853	2.6451986	1.2687081
Cathepsin S	1.7622388	0.9778825	1.8618832	1.485594	1.585985	1.3345643	1.4216883	1.9187645	1.574982	2.0571692	1.4410139
Biliverdin reductase	2.1722279	0.9535756	1.4555043	1.498446	1.4730015	1.7384639	1.0909885	2.4420905	1.7628571	1.0847373	1.5416354
Phase-1 RCT-154	2.338975	1.0210024	1.0160043	1.1351324	1.452822	1.2609571	1.6232723	2.010598	1.3780336	1.6100153	0.94786307
Phase-1 RCT-283	2.118387	1.0210024	1.0774947	1.5204513	2.0537834	1.5671482	1.5731025	2.588476	1.4766525	2.6557673	1.0360265
Annexin V	2.1389198	1.0080514	1.011234	1.3028742	1.6915518	1.11335	1.852262	1.5578184	1.5176528	1.6017687	1.2895945
Complement factor I (CFI)	0.98190617	0.8722898	2.554002	1.6799498	1.5205309	1.4712345	2.193438	1.509181	0.9650207	1.0044931	1.038572
Phase-1 RCT-276	1.1990963	0.8716938	1.0485999	0.8458688	1.228546	1.0808332	1.1332178	1.0749258	1.2715336	1.1711084	1.0821284
Tyrosine aminotransferase	0.56063074	0.82706153	3.1817298	1.0932149	0.8350878	1.4043655	1.0637895	0.7728777	0.7339188	0.46596228	0.41777927
Glutathione peroxidase	0.42512748	0.82570004	1.7648637	1.8033992	1.2288484	1.1453148	1.583518	1.2073557	0.7840682	0.8676335	0.9484852
Histidine-rich glycoprotein	0.39078654	0.5261272	1.8534465	1.1621338	1.1294367	1.082238	1.4714172	0.78211695	0.9834159	0.8747972	0.7515911
Carbonic anhydrase III, sequence 2	0.36490268	0.5322517	1.7258665	1.0722268	1.294825	1.0555568	1.4046154	0.8563377	0.9160772	0.82482165	0.88945344
Phase-1 RCT-42	0.36863322	0.71694084	1.0037915	1.026541	1.0843551	0.98820104	0.9049838	0.788789	0.81615263	0.7933982	0.8072735
Transitional endoplasmic reticulum ATPase	1.1979697	0.84448457	1.3247715	0.993288	1.367193	1.0257447	1.4501932	1.3989881	1.0158985	0.95943375	0.92073095
Phase-1 RCT-48	0.613948	0.84448457	0.7763771	0.87759556	0.77784987	1.0176577	0.87294178	0.80862774	0.8764558	0.95943375	0.92073095
Phase-1 RCT-296	0.5299843	0.7765101	1.8634193	1.725418	1.8505988	1.3860157	1.4364918	0.782815	0.58758947	0.79262165	0.8420267
Phase-1 RCT-161	0.6941131	0.86276344	0.7269683	0.8581153	0.581982	0.55372175	0.58576554	0.50000006	0.6987871	0.7092018	0.65312787
Glutathione S-transferase theta-1	0.7689309	0.88737893	1.4082462	1.5609367	1.3445275	1.6848217	1.3218473	1.5524569	1.3708122	1.20407	0.5219781
Phase-1 RCT-168	1.137991	1.2580643	0.7326004	0.83891624	1.1047555	1.016693	1.282398	1.2443494	0.7777888	0.74287184	0.73978888
Phase-1 RCT-182	0.42282712	0.8894735	1.3711076	1.175565	0.834565	0.912715	1.450249	1.0883445	0.53951234	0.55482185	0.7962178
JNK1 stress activated protein kinase	0.613389	0.7708849	0.3339804	0.78093003	0.5981026	0.7460544	0.52828778	0.53590703	0.890652	0.8918693	0.8390989
Phase-1 RCT-41	0.67784846	0.91916477	0.7906842	0.76229338	0.81346985	0.7978592	0.76928374	0.6909814	0.5685784	0.59706014	0.80076915
Phase-1 RCT-33	0.65665324	0.8617401	0.6685463	0.8914093	1.127336	1.2851826	1.1844625	1.1145512	0.64068325	0.895174	0.65273833
Phase-1 RCT-178	0.30142143	0.5761326	0.693501	0.4870389	0.4775397	0.41357818	0.4682516	0.4292703	0.60289927	0.524485	0.6744668
Apolipoprotein CIII	0.3710449	0.726895	0.72162753	0.72546693	0.5978986	0.5359038	0.506324	0.41012728	0.67018265	0.57614756	0.6463311
Phase-1 RCT-98	0.7471356	1.016783	0.7185122	0.637303	0.7663073	0.74391784	0.6890359	0.5883254	0.7998476	0.7604342	0.95310444
NADH-cytochrome b5 reductase	0.72389483	0.8610275	0.724902	1.1825792	0.89758656	1.0068137	1.1127805	0.9006701	0.57517207	0.55338657	0.5994708
Alpha 1 - inhibitor III	0.2397205	0.8872279	1.2898857	0.71351314	0.5971589	0.67598784	0.88383785	0.33621112	0.32445717	0.23587039	0.5004625
Phase-1 RCT-233	0.34284084	0.86012536	1.224637	1.0835211	0.78213096	0.9185147	0.8322601	0.71957654	0.6288094	0.6886351	0.7451389
Paraoxonase 1	0.27698614	0.7576053	1.5912638	1.0961878	0.9235985	0.8918986	1.0744874	0.68141544	0.4079569	0.456519	0.73376745
Preseitin-1	0.28180437	0.734044	1.2628208	0.7326231	0.58604254	0.8904338	0.7081009	0.35748687	0.35545942	0.26345146	0.82807707
Apolipoprotein C1	0.24671206	0.42056865	1.3161744	1.043584	0.7207988	0.65457207	1.2417547	0.91662873	0.265843	0.23532975	0.391068
Cytochrome P450 2C23	0.42019176	1.0233607	1.6615431	1.7709253	0.7813204	1.2205002	1.0780877	0.90868375	0.31152707	0.4020347	0.38416156
Phase-1 RCT-227	0.21206807	0.58923215	1.1002557	1.1372662	0.8574865	0.6973003	0.82404774	0.55515736	0.6174007	0.60701456	0.84783388
Hepatic lipase	0.5998757	0.9077693	0.87277825	0.96665907	0.7284258	0.59258928	0.4671181	0.37862136	0.34710532	0.34773895	0.5082884
Phase-1 RCT-164	0.5855588	0.9788481	0.7173139	0.69678675	0.64589866	0.6484931	0.6598213	0.6022717	0.43432474	0.68940187	0.689434
Multidrug resistant protein-2	7.882569	1.0947547	1.2993512	1.3384098	2.065334	1.3610167	1.255436	2.5788336	2.4062933	2.177902	4.971008
Inhibitor growth factor I, exon 6	0.38948234	0.6322887	0.73034	0.8322628	0.64520334	0.6589049	0.4252359	0.2783394	0.3083994	0.4208347	0.27708927
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	0.40183738	0.6020333	0.768962	0.8287827	0.6260713	0.70741128	0.76622415	0.51467285	0.29381675	0.3168442	0.48510866
Dynamin-1 (D100)	0.40425205	0.8880163	0.81031317	0.75971025	0.79374135	0.7240465	0.63931186	0.6468497	0.78306574	0.88444683	0.83257765
DNA polymerase beta	1.2253594	0.9315339	1.2928841	1.9650495	1.2949207	1.4625713	1.5028233	1.7077502	2.0049725	1.500431	1.1733016

Table 30

Phase-1 RCT-173	1.507371	1.188338	0.96623325	1.2572962	1.3455532	1.6250732	1.2371801	1.4621053	1.689445	1.737861	1.8110774	1.2639678	1.0804424
Ubiquitin conjugating enzymes (RAD 6 homologue)	1.591105	1.6448654	0.9145531	0.9868877	1.5702314	0.8497465	0.98524064	1.1841255	1.5057485	1.8342779	1.1489016	1.4286754	1.3170702
Ribosomal protein L13A	1.8768426	0.86144503	1.2385345	1.9794277	2.3376884	2.0492268	2.5302038	2.839622	1.5913111	1.5714164	1.2577387	1.6561428	1.7518731
Phase-1 RCT-144	1.9468958	0.8812635	0.9922561	1.84157765	1.0370855	1.0904884	1.3288761	1.8022999	1.3664309	1.3671884	1.1020281	1.4607508	1.2259268
C-H-Ras	1.6282377	0.8696331	1.0440084	1.1228286	1.3462113	1.3228825	1.2613288	1.2613288	1.2613288	1.2613288	1.2613288	1.2613288	1.2613288
Vesicular monoamine transporter (VMAT)	0.78787117	1.0494953	0.8479469	0.8402488	0.9750504	0.6637084	0.46701482	0.498615	0.80117248	0.83060116	1.16466574	0.8818421	0.87173154
Phase-1 RCT-273	0.86627335	0.95529243	0.8775444	0.8972048	0.87750498	0.8470081	0.8770081	0.7000847	1.1281288	1.001867	1.189976	0.955637	0.8608908
Phase-1 RCT-230	1.8861274	1.0408	0.7059123	0.8481833	0.91628877	0.89313	0.8218711	0.9556381	1.1281288	1.001867	1.189976	0.955637	0.8608908
Phase-1 RCT-74	0.8869141	1.1588323	0.9501575	0.57423997	0.6368253	0.6844882	0.8218711	0.9556381	1.1281288	1.001867	1.189976	0.955637	0.8608908
Phase-1 RCT-60	0.9543284	1.0713425	0.6483582	0.63080784	0.7870014	0.63023174	0.49355443	0.5612245	1.059273	1.059273	0.97329456	1.0039653	0.8012989
Phase-1 RCT-158	0.9758431	0.9511428	0.9265463	0.6816834	0.7870084	0.7520632	1.0230088	0.9502008	0.8020725	1.144532	0.97525287	1.855658	0.9468363
Deoxyribonuclease	0.86451	1.0597168	0.7620715	0.5806215	0.68172853	0.61988473	0.3480012	0.5711655	0.7904573	0.864273	1.3370477	1.1089149	1.0115371
Inositol polyphosphate multikinase (IPMK)	0.7451444	1.0430666	0.7445121	0.6566147	0.7439498	0.5692004	0.5995763	0.9011378	0.782112	0.89741397	0.80151323	0.6683113	
Neuronal cell adhesion molecule (NCAM)	0.83358207	1.0555253	0.6842854	0.6593265	0.7772758	0.69370384	0.5672424	0.5965839	0.8718242	1.089159	0.8618383	1.3018093	1.3886065
Hepatocyte growth factor receptor	1.045844	1.2174791	0.9202229	0.7826188	0.7712197	0.7979816	0.4683396	0.723008	0.82836548	0.8881713	1.3631207	1.0616171	
Emby	0.9098725	1.2250528	0.6471151	0.55855143	0.5328374	0.57658698	0.3364018	0.4332038	0.8923587	0.856958	1.0308642	0.890021	0.7728395
Opioid receptor D2	0.8206008	0.92530495	0.86228193	0.7899554	0.78513124	0.84824777	0.71304214	0.82466514	1.4992238	1.4702804	1.4599029	0.8898318	1.1424544
Phase-1 RCT-51	0.8457855	1.0708249	0.88934155	0.678024	0.77816145	0.7489338	0.6307868	0.6865657	1.2183075	1.2988563	0.9325052	0.8673065	0.8000928
Four repeat ion channel	0.96815926	1.3549382	0.8472874	0.56871405	0.77440547	0.69370384	0.5672424	0.5965839	0.8718242	1.089159	0.8618383	1.3018093	1.3886065
Adrenomedullin	0.9230332	1.2885439	0.63811284	0.90575916	0.55023134	0.6133077	0.39859887	0.49005978	0.95770913	0.833945	0.9731725	0.8478318	0.878158
Caveolin-3	0.8376306	1.1572807	0.647698	0.8155982	0.62673205	0.6737735	0.52427465	0.580917	1	0.9217246	0.89372154	0.97884608	0.7857058
Phase-1 RCT-128	1.0106397	1.1123853	0.7885506	0.7001255	0.7085354	0.747048	0.5812881	0.585783	1.028943	1.0188408	0.95928736	1.205952	0.8580181
Phase-1 RCT-94	0.8286809	1.0239893	0.8311808	0.93010247	0.7582871	0.7844387	0.71631444	0.7605258	0.8258883	0.88975203	0.94513494	0.9289647	0.9393936
Sarcoplasmic reticulum calcium ATPase	2.0113026	0.8068705	0.7824229	0.9424552	0.6685895	0.88255186	0.163311	0.6005284	0.95302814	0.8688388	0.94545513	0.73492056	0.70672164
Phase-1 RCT-78	0.85478526	0.9399273	0.7841274	0.8419409	0.88439727	0.88062548	0.75782956	0.8412958	1.124478	1.126078	1.0342993	0.8875293	0.8875293
Phase-1 RCT-252	0.7918413	1.0108788	1.9169501	1.6371725	1.6762851	2.1234803	1.864534	1.292238	1.5011842	1.4095145	1.1408878	0.5244244	0.80658926
Phase-1 RCT-151	1.0581519	0.9530091	1.1720148	0.8675766	1.4864817	1.269311	1.2120106	1.1973035	0.8883395	0.8883395	0.8081693	0.9125203	0.84916816
Phase-1 RCT-70	0.8635395	0.9829807	0.74289284	0.8847498	0.85411215	0.8802044	0.7092002	0.78762335	1.0378146	0.90583076	0.9378146	0.988588	0.9772445
Phase-1 RCT-150	0.76534013	1.0336623	1.284356	0.7133847	0.923806	1.0621806	1.2355133	1.210639	0.7587837	0.8941354	0.788248	0.89053947	0.83461185
25-hydroxyvitamin D3-1 alpha-hydroxylase	1.16952	1.2261523	0.797853	0.733659	0.6558125	0.765312	0.456473	0.8571884	0.870324	0.870324	0.8916959	0.9728789	1.0032381
Phase-1 RCT-118	0.7897326	1.0457023	0.8258287	0.808334	1.1589331	0.7843379	0.742888924	0.69455704	1.4887924	1.4887924	1.5553714	0.8413982	
Peroxisomal 3-ketoadyl-CoA thiolase 2	0.849499	1.0339568	1.0622956	1.3894596	0.9496838	1.8291631	1.8198654	1.8751009	1.4953038	1.0634086	0.8036863	0.86310463	1.0687073
Phase-1 RCT-146	3.0812671	1.1159718	0.8481375	1.321227	1.3249532	1.2866918	1.4085938	2.5591817	1.6007707	2.058257	1.205194	2.2925828	1.5479223
Superoxide dismutase Mn	1.507313	0.9103674	1.0319892	1.3219724	1.208352	1.5360054	1.3189995	2.0105188	1.2443391	1.2937652	1.1762321	1.395788	1.2478884
Phase-1 RCT-115	1.2587042	1.1444894	0.88597126	1.2209282	0.87982136	0.8690408	0.78457566	0.75804808	1.4288963	1.1537753	1.2686771	1.175762	1.5017886
Alpha-1 microglobulin/bikunin precursor (Amp)	0.4916705	0.8082636	1.2708362	0.9021991	0.91053057	1.2360778	0.727044	0.46722135	0.46722135	0.46722135	0.46722135	0.46722135	0.6586317
Phase-1 RCT-18	0.7488919	1.037955	0.7918398	0.8178812	0.81850475	0.84935087	0.8222887	0.7472881	0.94553596	0.9545005	1.0591601	0.85515183	0.803912
Masspin	0.7541835	1.0877815	0.8472057	0.6282127	0.6268826	0.59823763	0.39598693	0.4487847	0.69033414	0.72834886	0.8333077	0.8766894	0.75985384
Decorin	0.868403	1.0833269	0.8479135	0.73283375	1.3778708	0.9642736	0.7127738	0.7523897	1.4138385	3.522792	1.2063079	1.6891999	1.2463336
Retinol X receptor alpha	1.4697093	1.1377729	1.0746399	0.9865476	0.8387884	0.8488383	0.6073368	0.755566	1.8651752	1.5691164	1.168488	1.1117	1.3834036
Cellular nucleic acid binding protein (CHBP)	0.8996884	0.7773833	0.779902	1.042412	0.8597477	0.8334989	0.7273058	1.071808	1.1694745	1.487486	1.0042541	0.9115816	1.0701214
NADPH cytochrome P450 oxidoreductase	1.5164313	1.4717165	1.0553404	1.016581	1.161803	1.343847	0.778818	1.8203112	1.4831947	1.054203	1.2473122	1.5622375	1.5238445
Malic enzyme	0.95331237	0.7784307	0.62506723	0.57404035	0.5644006	0.83226575	0.52017725	0.6280115	0.8401288	0.86803097	0.9321312	0.8163867	0.7922252
Caspase 1	1.5186269	1.2150729	0.85851624	0.86847118	0.6873988	1.7158444	0.4923349	0.71697104	1.2998316	1.2507378	1.0767739	1.6497236	1.2783409
Cystatin C	1.135395	0.8870682	1.6611454	1.8873826	1.9346591	1.8024365	2.060065	1.8302889	1.4451475	1.7024032	1.142634	1.4454443	1.1321563
p53CDC	4.510624	1.0567381	1.2174098	2.2936576	1.5719229	1.5075492	0.85102403	2.416855	1.28513	1.2843177	1.4865244	5.307082	1.167485
Poly(ADP-ribose) polymerase	1.9413532	1.2794269	1.0052885	1.049834	1.11052	1.2370495	1.0496869	1.6038528	1.340558	1.387589	1.256521	1.4428783	1.3861331
Tissue plasminogen activator	1.8327658	1.0184975	0.7143318	0.96079576	1.2809117	1.3824277	1.625288	1.6341877	1.046286	1.206319	1.0144689	1.9805104	1.2598134
Multidrug resistant protein-1	8.373959	1.132727	1.4743623	1.3101763	2.0495535	1.5871942	1.4042009	3.4925525	2.978831	1.7078879	2.2966101	6.283874	4.383073
Phase-1 RCT-207	2.1814718	1.2948979	0.8662785	0.84537413	1.1838687	1.1102388	1.2151288	1.7862508	1.4128148	1.194102	0.9898889	2.3183565	2.5111895
Phase-1 RCT-181	0.5787352	1.0483506	0.923472	0.9248904	1.0166757	0.82409056	0.901486	0.8748204	0.8162162	0.798268	0.9294635	0.8316578	0.8316578
Gap junction membrane channel protein beta 1 (Gjb1)	0.5325597	1.4748339	0.918174	0.98460686	0.8284868	1.2619301	0.9777702	0.93332875	0.8444183	0.50744724	0.86823213	0.47453895	0.8151804
Aquaporin-3 (AQP3)	0.74586284	0.96738085	0.71787685	0.6386088	0.79860717	0.71291435	0.7060642	0.621668	0.7851493	0.750188	0.8825231	0.775085	0.85453016
Myelin basic protein	1.2824667	1.1103352	1.9379131	1.2637707	1.268463	1.2174412	1.2606918	1.1616414	1.2039073	1.140462	0.9609097	1.277187	1.4331048
Calgranulin B3	1.3180927	1.072504	0.9780334	1.079988	1.2157287	1.1868388	1.0729957	1.4959018	1.2449272	1.1308128	0.8734225	1.1978152	1.4778324

Table 30

Phase-1 RCT-156	1.4924241	1.0020304	1.233008	1.28776	1.3806046	1.252535	1.8165472	1.4256925	1.0984148	0.99047506	1.0311408	1.1417353	1.2003998
Proenzyme activator 28 alpha	1.3592968	0.8579352	1.8207783	1.9690829	1.8763741	1.8336874	2.453395	2.8774223	1.1797338	1.2408711	1.3982554	1.1851022	1.2980016
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).													
(2) Compound and dose abbreviations as in Table 1													
(3) Individual animal number													
(4) Liver inflammation classification for compound dose group at 72 h: yes-necr, necrosis observed; yes-both, necrosis with inflammation observed; no, no histopathology observed													
(5) Predictive genes (as in Table 23 and as included in Table 26)													

Table 30

Table 30. Expression Data for 72 Hour Timepoint (1)					
Compound/Dose (2)	DMN 20	LPS 8	LPS 8	LPS 8	
Animal Number (3)	yes-both	yes-both	yes-both	yes-both	358
Liver Toxicity Inflammation Classification (4)					
Gene Name (5)					
Phase-1 RCT-107	0.8040169	0.7016642			0.6188124
Beta1ine homocysteine methyltransferase (BHMT)	0.096841946	0.8906168			0.071252525
Proliferating cell nuclear antigen gene	2.1440887	1.3109872			1.1931351
Cytochrome P450 2C18	0.41523027	1.3379599			0.50334036
Cytochrome P450 2C11	0.13191731	0.51018816			0.29983737
Phase-1 RCT-280	0.29799092	0.7738295			0.41149566
Phase-1 RCT-69	2.5527768	0.7245623			1.2713593
Beta-actin, sequence 2	2.8687517	1.3027158			1.8715602
Phase-1 RCT-292	0.8359251	1.0147758			1.0631226
Private kinase, muscle	4.7186656	0.63391197			1.7183726
Osteocalcin	7.710653	1.6118702			1.4074453
Calgranulin B1	2.2252955	0.8945987			1.6380981
Apolipoprotein AII	0.11109998	0.76885235			0.28233635
Connexin-32	0.57069235	0.71284984			1.738875
Phase-1 RCT-109	1.726422	1.231006			2.0403097
Glycine methyltransferase	0.3782954	1.2850665			0.14328652
L-glutamate-gamma-lactone oxidase	0.18345436	0.7619083			0.1880563
Phase-1 RCT-296	0.3859828	0.80252784			0.26157707
Carbonic anhydrase III	0.089831198	0.5609542			0.018577862
Phase-1 RCT-78	0.5944242	0.837193			0.56944424
Urinary protein 2 precursor	0.14013028	0.9006414			0.3211214
Insulin-like growth factor I	0.31306607	0.82295876			0.43861848
Ap1 sulfotransferase	0.34340733	0.83986924			0.357261
Phase-1 RCT-185	0.45994687	1.0325785			0.2306643
Codrin	2.1852417	1.2885987			0.8125472
Statmin	2.1910366	1.3550336			1.248388
60S ribosomal protein L6	1.828529	1.4829028			1.3535442
Calpactin I heavy chain	3.843169	1.0598588			1.9322118
Collagen type II	2.112729	1.7454416			1.0433245
Phase-1 RCT-179	2.23797	1.2718953			1.1947907
Voltage-dependent anion channel 2 (Vdac2)	2.2102814	1.1508847			1.0590435
Phase-1 RCT-192	1.9038297	1.2221013			1.1908112
Adenine nucleotide translocator 1	1.0003195	1.0828714			0.86180365
Thymosin beta-10	4.5385753	1.6212133			2.4278903
High affinity IgE receptor gamma chain (FcER1gamma)	3.1394486	1.6383187			1.4425371
Gamma-actin, cytoplasmic	2.5319722	1.2823808			2.0532882
Uncoupling protein 2	5.763337	1.898482			1.3210982
Phase-1 RCT-34	1.0498437	1.2086554			0.57181185
Phase-1 RCT-31	0.7166233	1.1030266			0.30396357
Cyclin D1	1.8715975	1.0256747			0.8498021
IgE binding protein	6.547444	1.4251382			3.767226
Zinc finger protein	1.6320338	0.87200236			0.93095844
Phase-1 RCT-138	2.8452522	1.3631669			1.0008943
Alpha-tubulin	3.4716638	1.0560866			1.1098114
Alpha-prothymosin	2.0055177	1.2273427			0.36883088
Calpain 2	1.87289	1.2158599			1.1343175
Phase-1 RCT-12	2.007208	0.9099266			1.0985059
Cathepsin B	1.9117498	1.3868065			1.767509
Phase-1 RCT-24	2.530043	1.070531			0.9617021
Melanoma-associated antigen ME491	3.3786554	0.84295285			2.057486

Table 30

Phase-1 RCT-68	1.8856231	1.2202263	2.1922286
Cyclin G	3.9989164	1.2756402	2.2041815
Hypoxanthine-guanine phosphoribosyltransferase	1.2631109	1.1326075	1.0975078
Tissue inhibitor of metalloproteinases-1			
ID-1	3.128998	2.8370152	10.385122
Ribosomal protein S9	1.6305699	1.3253391	1.0344073
Ribosomal protein S8	1.9823402	1.3917873	1.2909603
Heme oxygenase	5.313715	1.2870158	3.4576108
Ribosomal protein S6	1.7891848	1.3267509	1.5123247
Ribosomal protein S17	1.3569355	1.3599387	1.7069891
Nucleoside diphosphate kinase beta isoform	1.9797003	0.9680903	1.2260166
Phase-1 RCT-121	3.9615777	1.4953027	1.0293612
14-3-3 zeta	3.075995	1.1444138	1.4321153
60S ribosomal protein L8 (alternata clone 1)	1.6800777	1.2683167	1.5378393
Beta-tubulin, class I	2.6551533	0.8950028	0.81103364
Organic cation transporter 3	1.6919669	0.7431803	1.1867591
Beta-actin	6.2669044	1.5399238	1.4478053
Calhepsin S	3.2793078	1.3528031	1.0394243
Biliverdin reductase	2.533243	1.4140321	0.9248817
Phase-1 RCT-154	2.1739683	0.93116295	1.3778303
Phase-1 RCT-283	4.882032	1.3600008	1.6220219
Anectin V	2.380982	1.3544004	1.0370871
Complement factor I (CFI)	0.99775934	1.8933793	0.9262998
Phase-1 RCT-278	0.93278664	1.2831049	0.6957418
Tyrosine aminotransferase	0.3148907	0.980077	1.6594581
Glutathione peroxidase	0.6918331	1.9804517	0.31715548
Hedidine-rich glycoprotein	0.623878	1.3151786	0.14718106
Carbonic anhydrase III, sequence 2	0.5131548	1.3646503	0.10406765
Phase-1 RCT-462	0.45668544	1.0562036	0.1947956
Transitional endoplasmic reticulum ATPase	0.86054945	1.075758	1.0174806
Phase-1 RCT-88	0.7942439	1.207669	0.5325862
Phase-1 RCT-286	0.60530573	2.484485	0.09823714
Phase-1 RCT-161	0.4366275	0.7765538	0.2438344
Glutathione S-transferase theta-1	1.1165882	1.3185403	0.93906178
Phase-1 RCT-168	0.84091843	1.0274748	0.5856489
Phase-1 RCT-182	0.3478536	1.306448	0.35697815
JNK1 stress activated protein kinase	0.5406055	0.8911144	0.6492018
Phase-1 RCT-61	0.7177912	1.0545126	0.728508
Phase-1 RCT-33	0.497881	0.7818755	0.2524734
Phase-1 RCT-178	0.5607463	0.7301234	1.3281302
Apolipoprotein CIII	0.3568416	1.0805821	1.1166836
Phase-1 RCT-46	0.79081464	0.9031604	0.75090295
NADH-cytochrome b5 reductase	0.42171198	0.9730204	0.47377788
Alpha 1 - inhibitor III	0.2456891	0.9253855	0.429093
Phase-1 RCT-233	0.42334568	1.1635805	0.20704383
Paraoxonase 1	0.21882187	1.3272403	0.13670273
Phase-1 RCT-1	0.24058105	1.0025127	0.41695938
Apolipoprotein C1	0.13635382	1.071679	0.26583591
Cytochrome P450 2C23	0.42162268	1.6954692	0.173472
Phase-1 RCT-227	0.43124133	0.77819546	0.29532373
Hepatic lipase	0.2475416	0.87250113	0.49930256
Phase-1 RCT-164	0.72538185	0.89859015	0.65953374
Multidrug resistant protein-2	3.5761097	1.8914113	1.0693928
Insulin-like growth factor 1, exon 6	0.34395814	0.95939844	0.6595183
N-hydroxy-2-acetylaminofluorene sulfotransferase (ST1C1)	0.33320472	0.63301605	0.06586355
Dynamin-1 (D100)	0.74161947	0.9502544	0.6032047
DNA polymerase beta	1.1561971	0.9621877	1.040539

Table 30

Phase-1 RCT-173	1.2427564	0.8996468	1.1152853
Ubiquitin conjugating enzyme (RAD 6 homologue)	1.6026064	1.06924	1.1566948
Ribosomal protein L13A	1.9462317	1.3632537	2.2470285
Phase-1 RCT-144	1.2983861	1.1453855	1.3175316
α-H-ras	1.502581	1.2523831	1.530816
Vesicular monoamine transporter (VMAT)	0.8883549	0.47463155	1.849659
Phase-1 RCT-273	0.99483957	0.41823173	0.94441444
Phase-1 RCT-250	2.4951176	0.6108781	1.4854684
Phase-1 RCT-74	0.8784185	0.7886209	1.255345
Phase-1 RCT-80	0.84548587	0.4444107	1.0130352
Phase-1 RCT-158	1.5875775	0.9016394	1.2018623
Deoxyribidylase	0.96194685	0.7705581	1.4161179
Inositol polyphosphate multikinase (Ipml)	0.62240355	0.44881448	0.5744744
Neuronal cell adhesion molecule (NCAM)	1.2564243	0.45160464	0.8269709
Hepatocyte growth factor receptor	1.159072	1.1191982	1
Empty	0.8991991	0.6028172	1.1242586
Dopamine receptor D2	1.0226764	0.94019413	0.74451745
Phase-1 RCT-51	1.0109782	0.897611	0.79182405
Four repeat ion channel	0.84998834	1.050205	0.95182323
Adrenomedullin	0.8552592	0.5960319	1.5350603
Carvedilol-3	0.7708271	0.8325261	0.8653857
Phase-1 RCT-128	1.2017422	0.7223974	1.475175
Phase-1 RCT-84	1.0000972	1.0265609	1.2811085
Sarcoplasmic reticulum calcium ATPase	0.7748615	0.8541117	1.3511043
Phase-1 RCT-79	0.7963578	0.7212599	0.95881455
Phase-1 RCT-252	0.34884637	0.9355969	0.38855828
Phase-1 RCT-151	0.8519434	1.0378699	1.2836052
Phase-1 RCT-70	0.87584794	0.89695007	0.9826868
Phase-1 RCT-150	0.7189278	1.2268974	0.8404482
25-hydroxyvitamin D3-1 alpha-hydroxylase	1.0930347	1.0019239	1.36636
Phase-1 RCT-119	0.38743204	0.70738745	0.8578916
Peroxisomal 3-oxoacyl-CoA thiolase 2	0.8431568	0.9429355	0.8813462
Phase-1 RCT-146	1.8992155	1.098418	1.2703335
Superoxide dismutase Mn	1.3590895	1.2316445	0.8660071
Phase-1 RCT-115	2.7409308	0.5290255	1.2857474
Alpha-1 microglobulin/bikunin precursor (Ambp)	0.4586953	1.2435149	0.71594733
Phase-1 RCT-18	0.8337812	0.9528638	0.92332304
Masspin	0.7277598	0.4918198	1.738742
Decorin	1.7129465	0.6102011	1.5485382
Retinoid X receptor alpha	1.1858712	1.104623	0.8462545
Cellular nucleic acid binding protein (CNBP)	0.85817003	1.055864	0.98325785
NADPH cytochrome P450 oxidoreductase	1.3678231	0.8422467	0.9032656
Malic enzyme	0.7036386	0.8978055	0.72347285
Caspase 1	1.9639709	1.1267234	1.122003
Cystatin C	1.7174932	0.8600019	0.5145915
p55CDC	1.9818262	1.1542108	2.3778481
Poly(ADP-ribose) polymerase	1.5267507	1.0924722	1.1388742
Tissue plasminogen activator	1.4500462	0.9287945	1.0872881
Multidrug resistant protein-1	3.7182	2.0160375	0.9582012
Phase-1 RCT-207	2.3214073	0.8915475	1.0847728
Phase-1 RCT-181	0.8738912	1.284629	0.9488184
Gap junction membrane channel protein beta 1 (Gjb1)	0.87613164	0.96224865	0.54281425
Aquaporin-3 (AQP3)	0.76584807	1.0010186	1.1204846
Myelin basic protein	1.3968417	0.8241988	0.81628623
Calgranulin B3	1.0920181	0.90243614	1.0931168

Table 30

Phase-1 RCT-156	1.3465308	1.0327852	0.9664631
Protease activator 28 alpha	1.4628532	0.97415274	1.309264
(1) Gene expression data for 72 hour timepoint are presented as mean ratio of treatment/control for all 72 hour predictive genes (Table 23).			
(2) Compound and dose abbreviations as in Table 1.			
(3) Individual animal number			
(4) Liver inflammation classification for compound dose group at 72 h: yes-necr. necrosis observed; yes-bom. necrosis with inflammation observed; no, no histopathology observed			
(5) Predictive gene (as in Table 23 and as included in Table 25)			

Table 30